

Zervas Elementary School

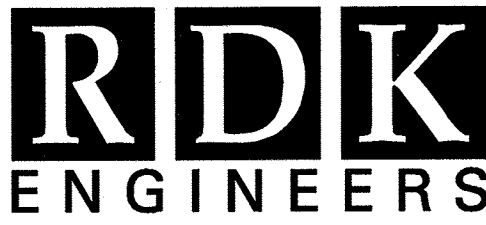
30 Beethoven Ave  
Waban, MA 02468

Horace Mann Elementary School

687 Watertown Street  
Newtonville, MA 02160

Burr Elementary School

171 Pine Street  
Auburndale, MA 02466



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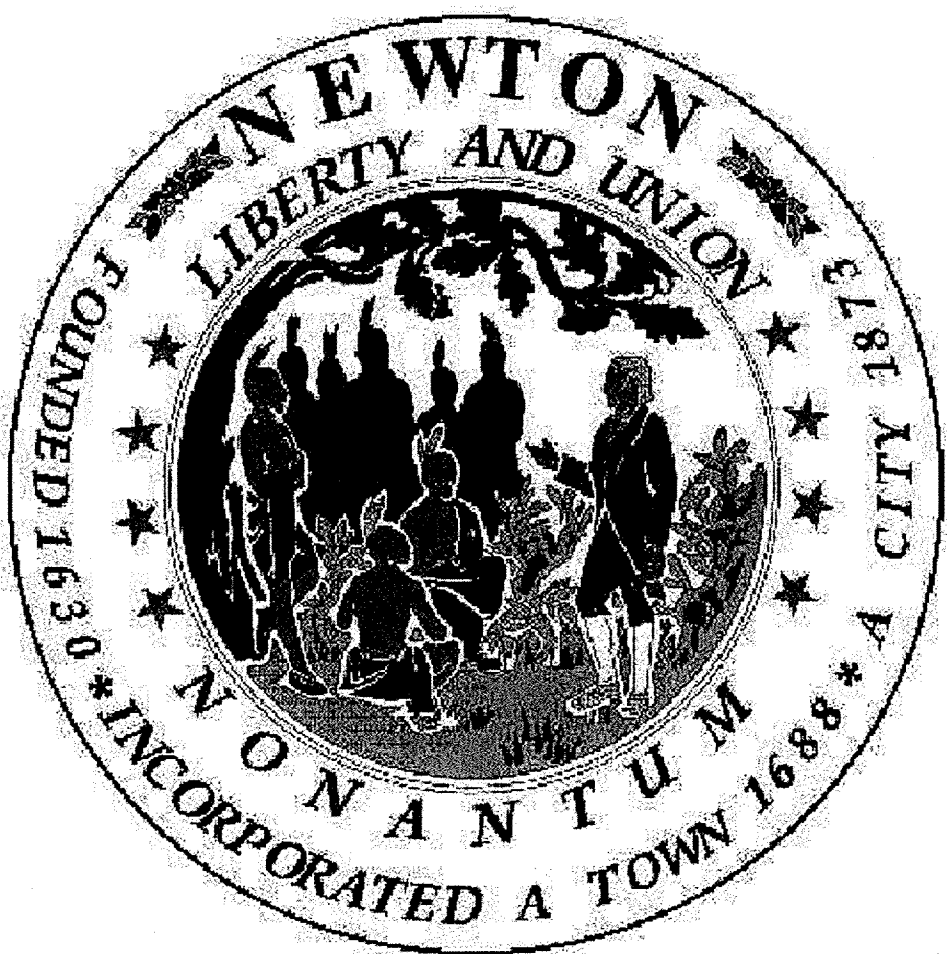
Sprinkler Renovations at Zervas, Burr And Horace Mann Schools

PREPARED FOR

City Of Newton  
Public Buildings

SETTI WARREN / MAYOR

PREPARED BY



SHEET	TITLE
FIRE PROTECTION	
FP0.00	FIRE PROTECTION - LEGEND, NOTES, AND ABBREVIATIONS
FP2.00	FIRE PROTECTION - HORACE MANN LOWER LEVEL PLAN
FP2.01	FIRE PROTECTION - HORACE MANN ENTRY LEVEL PLAN
FP2.02	FIRE PROTECTION - HORACE MANN UPPER LEVEL PLAN
FP2.03	FIRE PROTECTION - BURR SCHOOL FIRST FLOOR PLAN A
FP2.04	FIRE PROTECTION - BURR SCHOOL FIRST FLOOR PLAN B
FP2.05	FIRE PROTECTION - BURR SCHOOL SECOND FLOOR PLAN A
FP2.06	FIRE PROTECTION - BURR SCHOOL SECOND FLOOR PLAN B
FP2.07	FIRE PROTECTION - ZERVAS SCHOOL FIRST FLOOR PLAN A
FP2.08	FIRE PROTECTION - ZERVAS SCHOOL FIRST FLOOR PLAN B
FP4.00	FIRE PROTECTION - DETAILS

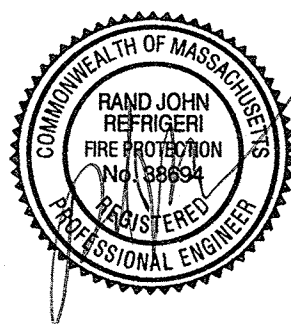
SHEET	TITLE
ELECTRICAL	
FA0.00	ELECTRICAL - LEGEND, NOTES, DETAILS, AND ABBREVIATIONS
FA4.00	ELECTRICAL HORACE MANN LOWER LEVEL FIRE ALARM PLAN
FA4.01	ELECTRICAL HORACE MANN ENTRY LEVEL FIRE ALARM PLAN
FA4.02	ELECTRICAL HORACE MANN UPPER LEVEL FIRE ALARM PLAN
FA4.03	ELECTRICAL BURR SCHOOL FIRST FLOOR FIRE ALARM PLAN A
FA4.04	ELECTRICAL BURR SCHOOL FIRST FLOOR FIRE ALARM PLAN B
FA4.05	ELECTRICAL BURR SCHOOL SECOND FLOOR FIRE ALARM PLAN A
FA4.06	ELECTRICAL BURR SCHOOL SECOND FLOOR FIRE ALARM PLAN B
FA4.07	ELECTRICAL ZERVAS SCHOOL FIRST FLOOR FIRE ALARM PLAN A
FA4.08	ELECTRICAL ZERVAS SCHOOL FIRST FLOOR FIRE ALARM PLAN B
FA5.00	ELECTRICAL HORACE MANN SCHOOL FIRE ALARM RISER DIAGRAM
FA5.01	ELECTRICAL BURR SCHOOL FIRE ALARM RISER DIAGRAM
FA5.02	ELECTRICAL ZERVAS SCHOOL FIRE ALARM RISER DIAGRAM

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REVISIONS

▲	DATE	CHK	DESCRIPTION

SEAL



PROJECT

NUMBER  
20120013

DATE  
01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

DRAWING

DRAWN BY  
DD

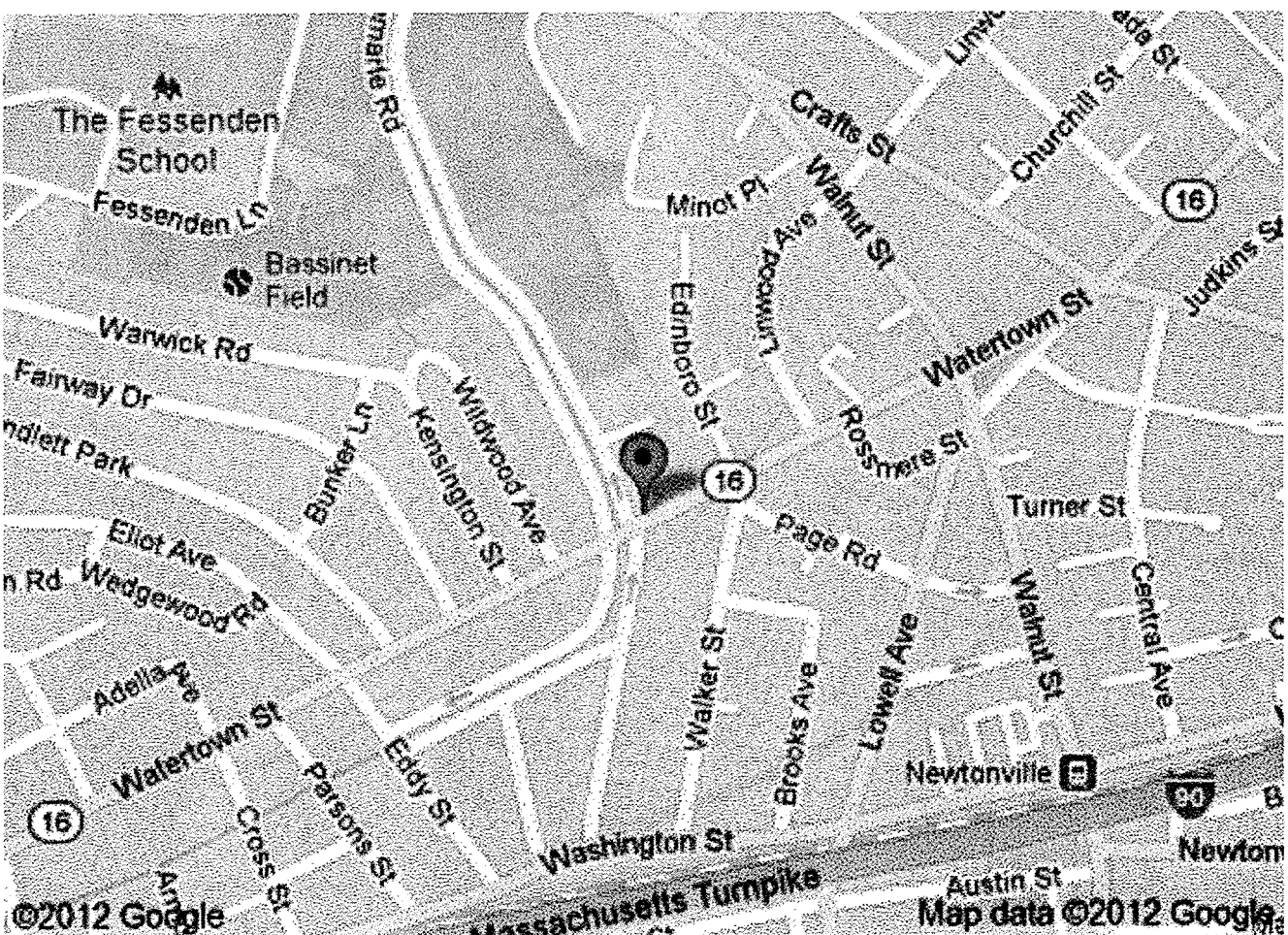
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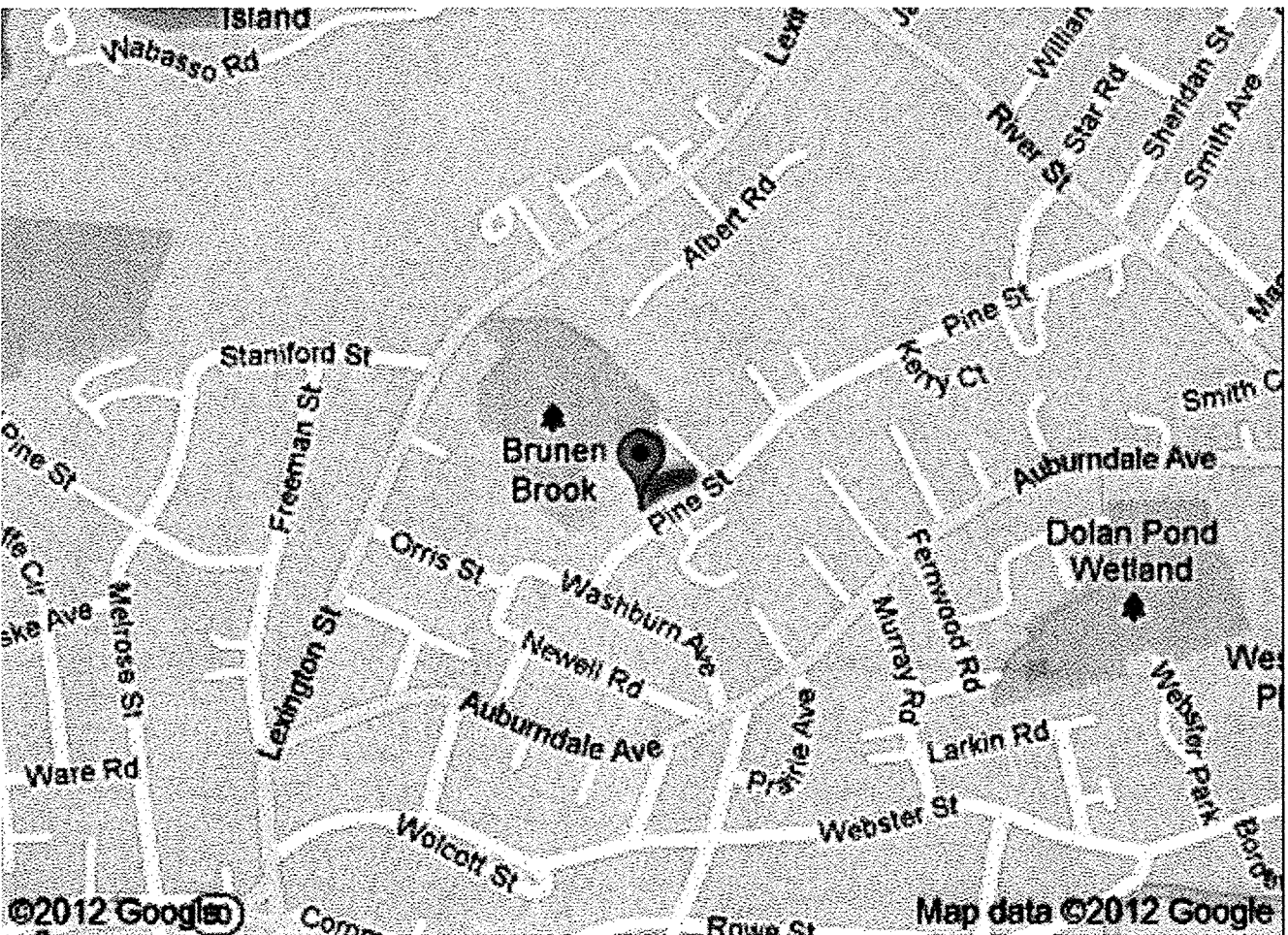
TITLE SHEET

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03/09/12

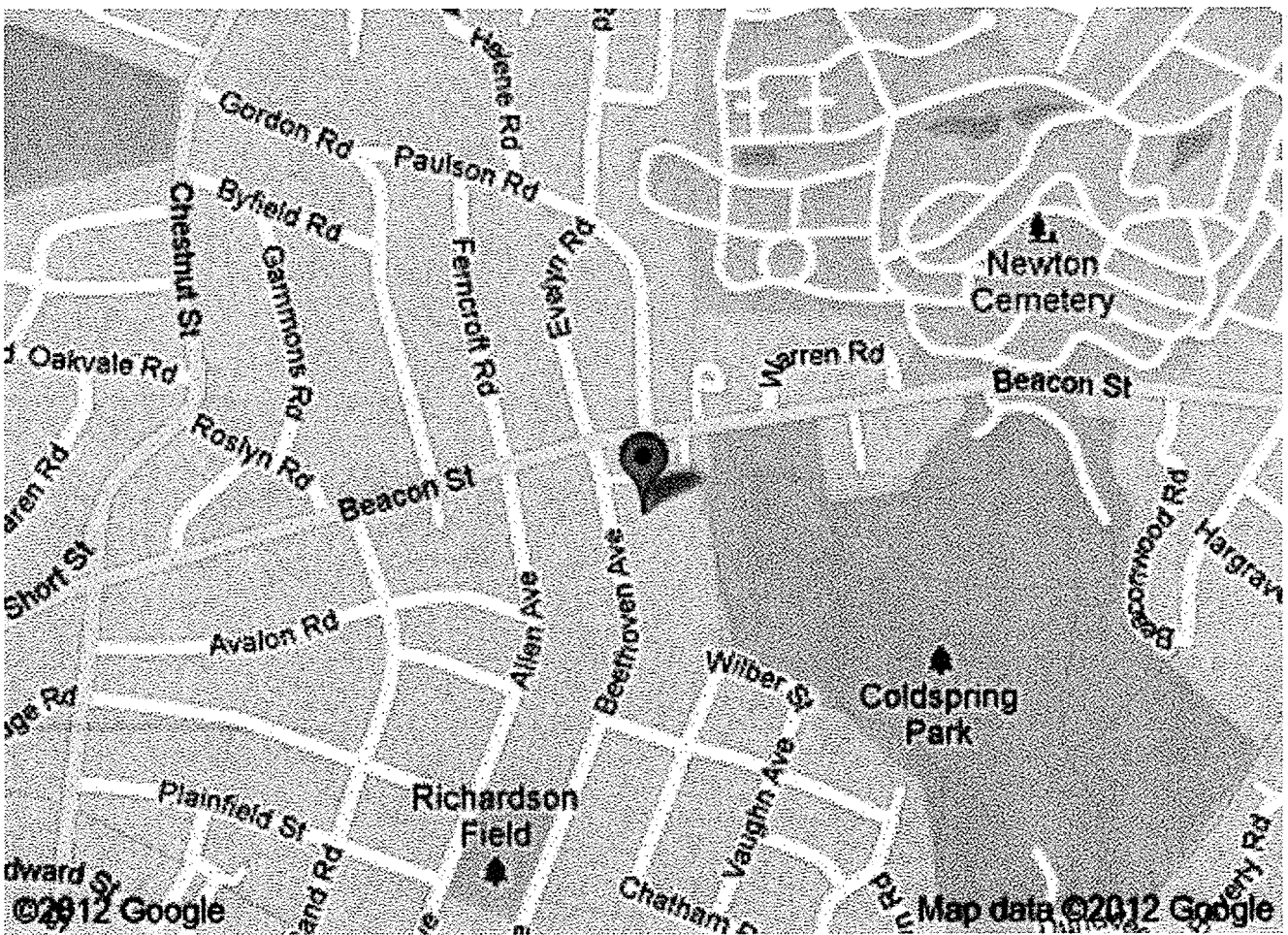
LOCUS PLAN



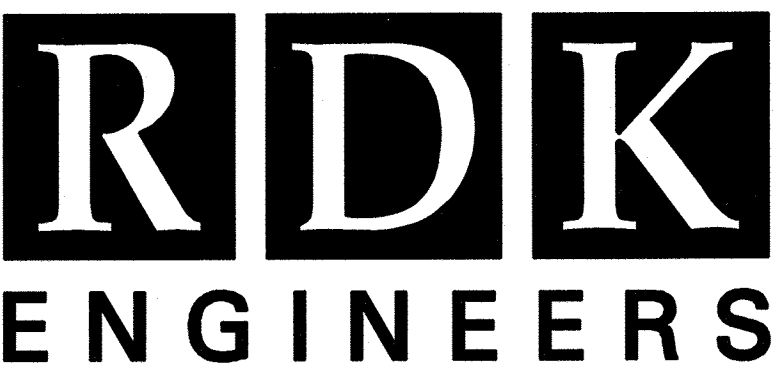
Horace Mann Elementary School



Burr Elementary School



Zervas Elementary School



Richard D. Kimball Company, Inc  
200 Brickstone Square  
Andover, MA 01810-1488  
  
The Fargo Building  
451 D Street Suite 801  
Boston, MA 02210-1964

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G:\2012\20120013 - Burr-Zervas-Mann Schools Fire Protection\200 Drawings\201 Fire Protection\Plot Files\20120013 FPO.00 THE PROTECTION LEGEND,NOTES, and ABBREVIATIONS.dwg [View] March 08, 2012 - 3:02pm idonohue

GENERAL NOTES	
1.	FIRE PROTECTION WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE BUILDING CODE, LOCAL AMENDMENTS AND THE REFERENCED NATIONAL FIRE PROTECTION ASSOCIATION CODES INCLUDING 13, 20, AND 24.
2.	ALL FIRE PROTECTION SYSTEMS, EQUIPMENT, PIPING AND VALVES SHALL BE INSTALLED AND TESTED BY A SPRINKLER CONTRACTOR LICENSED BY THE STATE AND EXPERIENCED IN THE INSTALLATION OF SPRINKLER SYSTEMS.
3.	OBTAIN ALL PERMITS AND PAY ALL FEES ASSOCIATED WITH THIS WORK PRIOR TO COMMENCEMENT.
4.	PIPING AND EQUIPMENT IS SHOWN DIAGRAMMATICALLY THE ACTUAL ROUTING OF PIPING AND EXACT LOCATION OF EQUIPMENT SHALL BE DETERMINED IN THE FIELD.
5.	THE DRAWINGS SUGGEST ROUTING OF PIPING, PIPE SIZES AND APPROXIMATE LOCATION OF HEADS. THE CONTRACTOR SHALL PRODUCE A COMPLETE SET OF WORKING PLANS IN ACCORDANCE WITH NFPA 13. THE SYSTEM SHALL BE HYDRAULICALLY CALCULATED PER THE DESIGN CRITERIA SPECIFIED. ALL PLANS AND CALCULATIONS SHALL BE STAMPED BY THE CONTRACTOR'S REGISTERED FIRE PROTECTION ENGINEER AND SHALL BE SUBMITTED TO THE LOCAL AUTHORITY AND OWNER'S UNDERWRITER FOR APPROVAL.
6.	IN ADDITION TO REVIEWING AND COORDINATING WITH THE OTHER TRADES (CIVIL, STRUCTURAL, ARCHITECTURAL, HVAC AND ELECTRICAL) THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE DETAILS OF CONSTRUCTION.
7.	FURNISH AND INSTALL ALL NECESSARY PIPING EQUIPMENT SUPPORTS AND ANY EQUIPMENT NOT SHOWN ON DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS BUT NECESSARY TO PROVIDE A COMPLETE AND WORKABLE SYSTEM.
8.	PROVIDE ACCESS TO ALL EQUIPMENT REQUIRING PERIODIC SERVICE AND MAINTENANCE.
9.	FURNISH ACCESS PANELS TO THE GENERAL CONTRACTOR FOR INSTALLATION UNDER THE RELATED TRADES.
10.	PITCH ALL PIPING TO DRAIN, PROVIDE AN AUXILIARY DRAIN AT ALL LOW POINTS.
11.	PROVIDE WATER TIGHT SLEEVES ON ALL PIPES PASSING THROUGH EXTERIOR WALLS AND BASEMENT FLOORS.
12.	ALL VALVES CONTROLLING FIRE PROTECTION MAINS SHALL BE PROVIDED WITH TAMPER/SUPERVISORY SWITCHES WIRED TO THE FIRE ALARM CONTROL PANEL.
13.	CONTRACTOR SHALL PROVIDE FIRE STOPPING FOR ALL PENETRATIONS THRU FIRE WALLS AND FIRE RATED SEPERATIONS. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND RATINGS OF ALL FIRE RATED SEPARATIONS AND BARRIERS. INSTALLATION OF FIRE STOPPING SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
14.	ALL FIRE PROTECTION SYSTEMS SHALL BE SEISMICALLY BRACED ACCORDING TO THE APPLICABLE SECTIONS OF THE STATE BUILDING CODE AND THE REFERENCED EDITION OF NFPA-13.

ANNOTATIONS	
	DETAIL DESIGNATION NUMBER
	DETAIL DESIGNATION DRAWING
	RISER SERVICE DESIGNATION
	RISER NUMBER DESIGNATION
	RISER DESIGNATION DRAWING
	SECTION DESIGNATION LETTER
	SECTION DESIGNATION DRAWING
	HYDRAULIC CALCULATION NODE POINT

WATER SUPPLY INFORMATION	
<u>BURR ELEMENTARY SCHOOL</u>	
TYPE:	MUNICIPAL SUPPLY (8"MAIN)
DATE:	MAY 17, 2011 AT 2:00 P.M
SOURCE:	CITY OF NEWTON DPW UTILITIES DIVISION
<u>RESULTS:</u>	
STATIC:	78 PSI
RESIDUAL:	61 PSI
FLOW:	1,335 GPM

WATER SUPPLY INFORMATION	
<u>HORACE MANN ELEMENTARY SCHOOL</u>	
TYPE:	MUNICIPAL SUPPLY (8"MAIN)
DATE:	MAY 17, 2011 AT 1:30 P.M
SOURCE:	CITY OF NEWTON DPW UTILITIES DIVISION
<u>RESULTS:</u>	
STATIC:	80 PSI
RESIDUAL:	64 PSI
FLOW:	1,455 GPM

WATER SUPPLY INFORMATION	
<u>ZERVAS ELEMENTARY SCHOOL</u>	
TYPE:	MUNICIPAL SUPPLY (8"MAIN)
DATE:	MAY 17, 2011 AT 3:00 P.M
SOURCE:	CITY OF NEWTON DPW UTILITIES DIVISION
<u>RESULTS:</u>	
STATIC:	68 PSI
RESIDUAL:	52 PSI
FLOW:	795 GPM

PIPING LINETYPES	
	FIRE SERVICE/MAIN/BUIDING WET PIPING
	WET PIPE SPRINKLER SYSTEM
	FIRE DEPARTMENT CONNECTION PIPING
	SPRINKLER DRAIN
	BELOW FLOOR WET PIPE SPRINKLER SYSTEM

PIPING SYMBOLS	
	OED OPEN END DRAIN
	DIRECTION OF SLOPE
	ELBOW UP OR RISE
	ELBOW DOWN OR DROP
	TEE LOOKING DOWN
	TEE LOOKING UP
	VALVE IN VERTICAL
	FLOW IN DIRECTION OF ARROW
	CAP OR END OF PIPE
	REDUCER/INCREASER
	PIPE SLEEVE
	CONNECT TO EXISTING
	UNION

EQUIPMENT & VALVES	
	WET SYSTEM MAIN RISER
	ANGLE VALVE
	BALL VALVE
	SUPERVISED BUTTERFLY VALVE
	CHECK VALVE
	BACKFLOW PREVENTER
	FIRE DEPARTMENT HOSE VALVE
	SPRINKLER ZONE CONTROL ASSEMBLY
	FLOW SWITCH
	GLOBE VALVE
	SUPERVISED OS&Y VALVE
	PRESSURE REDUCING/REGULATING VALVE
	PRESSURE SWITCH
	PRESSURE GAUGE
	WATER MOTOR GONG
	ELECTRIC ALARM BELL
	POST INDICATOR VALVE
	VALVE AND ROADWAY BOX
	WALL MOUNTED FIRE DEPARTMENT INLET CONNECTION
	FREE STANDING FIRE DEPARTMENT INLET CONNECTION
	FIRE HYDRANT

ABBREVIATIONS	
ACT	ACOUSTICAL TILE
AFF	ABOVE FINISH FLOOR
AP	ACCESS PANEL
BLDG	BUILDING
BFP	BACKFLOW PREVENTER
CLG	CEILING
CLDI	CEMENT LINED DUCTILE IRON
CTE	CONNECT TO EXISTING
CONT	CONTINUATION
D	DRY SPRINKLER SYSTEM
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DIA	DIAMETER
DN	DOWN
DSR	DRY SYSTEM MAIN RISER
DWG	DRAWING
EAB	ELECTRIC ALARM BELL
EL/ELEV	ELEVATION
ETBR	EXISTING TO BE REMOVED
ETR	EXISTING TO REMAIN
EX	EXISTING
F	FIRE SERVICE MAIN/BUILDING WET SUPPLY PIPING
FDC	FIRE DEPARTMENT CONNECTION
FDV	FIRE DEPARTMENT VALVE
FDVC	FIRE DEPARTMENT VALVE CABINET
FFE	FINISH FLOOR ELEVATION
FHC	FIRE HOSE CABINET
FHV	FIRE HOSE VALVE
FLR	FLOOR
FP	FIRE PROTECTION
FS	FLOW SWITCH
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
INV	INVERT
LPS	LOW PRESSURE SWITCH
MECH	MECHANICAL
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
NIC	NOT IN CONTRACT
OED	OPEN END DRAIN
OS&Y	OUTSIDE SCREW & YOLK
PA	PREACTION SPRINKLER SYSTEM
PAC	PREACTION CABINET
PG	PRESSURE GAUGE
PIV	POST INDICATOR VALVE
PRV	PRESSURE REDUCING/REGULATING VALVE
PS	PRESSURE SWITCH
PSR	PREACTION SYSTEM MAIN RISER
PSI	POUNDS PER SQUARE INCH
SPEC	SPECIFICATION
SPD	SPRINKLER DRAIN
SPR	WET PIPE SPRINKLER SYSTEM
STP	STANDPIPE SYSTEM
TS	TAMPER SWITCH
TYP	TYPICAL
VIV	VALVE IN VERTICAL
WMG	WATER MOTOR GONG
WSR	WET SYSTEM MAIN RISER
ZCA	SPRINKLER ZONE CONTROL ASSEMBLY

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SEAL



PROJECT

NUMBER 20120013

DATE 01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

DRAWING

DRAWN BY DD

CHECKED BY RM

SCALE 1/8" = 1'-0"

FIRE PROTECTION  
LEGEND, NOTES,  
AND ABBREVIATIONS

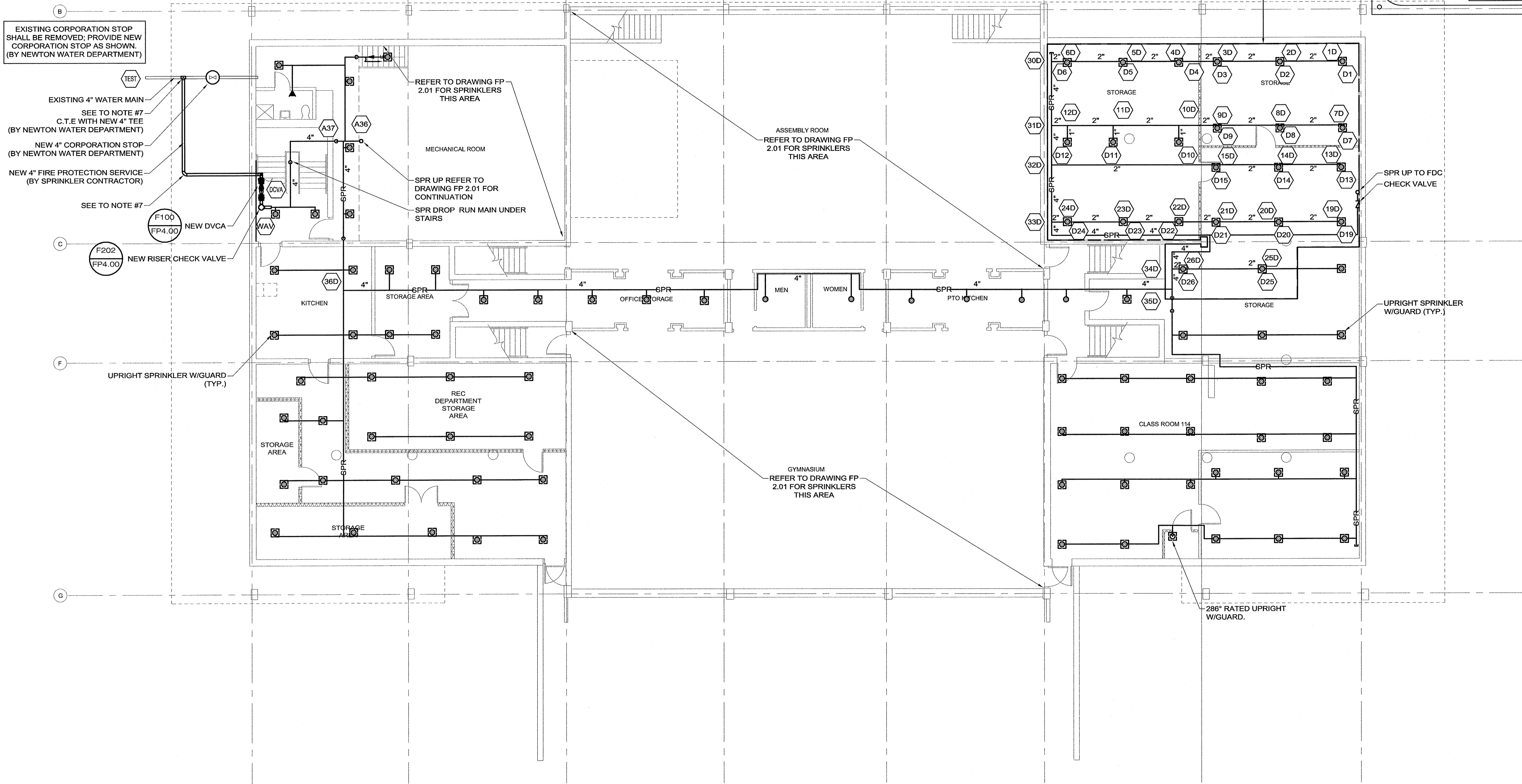
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1/8" = 1' - 0"  
0 8' 16'

FPO.00

C:\2012\20120013 - Burr-Zervas-Mann Schools Fire Protection\200 Drawings\201 Fire Protection\Plot Files\20120013 FP2.00 FIRE PROTECTION HORACE MANN LOWER LEVEL PLAN.dwg [Work] March 08, 2012 - 3:39pm ddonohue



HYDRAULIC DESIGN DATA:	
HAZARD:	ORDINARY HAZARD - GROUP 1
DENSITY:	2 GPM/SQ.FT
AREA:	1679 SQ.FT
HEADS FLOWING:	23
SPRINKLER DEMAND:	493.68 GPM
HOSE ALLOWANCE:	280 GPM
TOTAL:	743.684 GPM @ 64.643 PSI
SAFETY FACTOR:	TEST
ADDITIONAL INFO:	10.73 PSI
	WET SYSTEM
	REMOTE AREA D

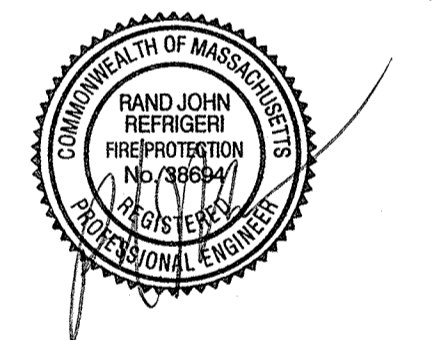
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## PROJECT

NUMBER  
20120013

DATE  
01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

## DRAWING

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DD

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RM

SCALE  
1/8" = 1'-0"

FIRE PROTECTION  
HORACE MANN  
LOWER LEVEL PLAN

SPRINKLER SCHEDULE						
SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	FINISH
⊙	EXISTING		PENDENT			
⊙	NEW	QUICK	CONCEALED PENDENT	STANDERD	5.6	WHITE
⊙	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME
⊙	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME
⊙	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME
▼	NEW	QUICK	HORIZONTAL SIDEWALL	STANDARD	5.6	WHITE/CHROME
▼	NEW	QUICK	EXTENDED COVERAGE SIDEWALL	EXTENDED	8.0	WHITE/CHROME

☐ BOX AROUND SPRINKLER HEAD INDICATES CAGE GUARD REQUIRED

- NOTES:
- ALL PIPING TO INDIVIDUAL SPRINKLERS SHALL BE A MINIMUM OF 1"
  - SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ALL CEILING ELEMENTS, CONDITIONS, LAYOUT AND HEIGHTS. HEAD LOCATIONS SHALL BE IN ACCORDANCE WITH NFPA 13. WHERE OBSTRUCTIONS REQUIRE ALTERNATE SPRINKLER HEAD LOCATIONS THAN SHOWN ON CONTRACT DOCUMENTS, SPRINKLER HEAD SPACING SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SPACING PER NFPA 13 AND THE MANUFACTURER'S DATA.
  - SPRINKLERS SHALL BE INSTALLED A MINIMUM OF 2'-0" AWAY FROM ALL EXIT SIGNS.
  - SPRINKLERS SHALL BE SPACED A MINIMUM OF 6'-0" ON CENTER AND A MAXIMUM OF 15'-0" ON CENTER
  - PROVIDE SPRINKLERS UNDER ALL DUCT (OR SIMILAR OBSTRUCTION) OVER 48" WIDE OR IF TWO DUCTS, RUNNING PARALLEL, ARE LESS THAN 12" APART AND THE TOTAL WIDTH IS OVER 48".
  - FURNISH RESTRAINTS EQUAL TO MEG-A-LUG JOINT RESTRAINT SYSTEM. ALL FITTINGS EQUIPPED WITH MJ RETAINER GLANDS ON ALL MJ CONNECTIONS IN RETAINING SYSTEM. ALL GLANDS SHALL BE NOT LESS THAN 150 PSI WORKING PRESSURE. GASKET LUBE TO BE FURNISHED BY THE PIPE MANUFACTURER. THE MJ RETAINER GLAND SYSTEM IS TO CONFORM TO ANSI/AWWA C111/A21.11.
  - FLUSH AND HYDROSTATICALLY TEST PER NFPA13 CHAPTER 10.



1/8" = 1' - 0"

BID SET  
03/09/12

FP2.00

C:\2013\20120013 - Burr-Zervas-Mann-Schools-Fire-Protection\200-Drawings\201-Fire-Protection\WDRS-MAN-ENTRY-LEVEL-Fire-Protection.dwg [User] March 08, 2012 - 3:34pm dds@rdk.com

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## SEAL



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BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

## DRAWING

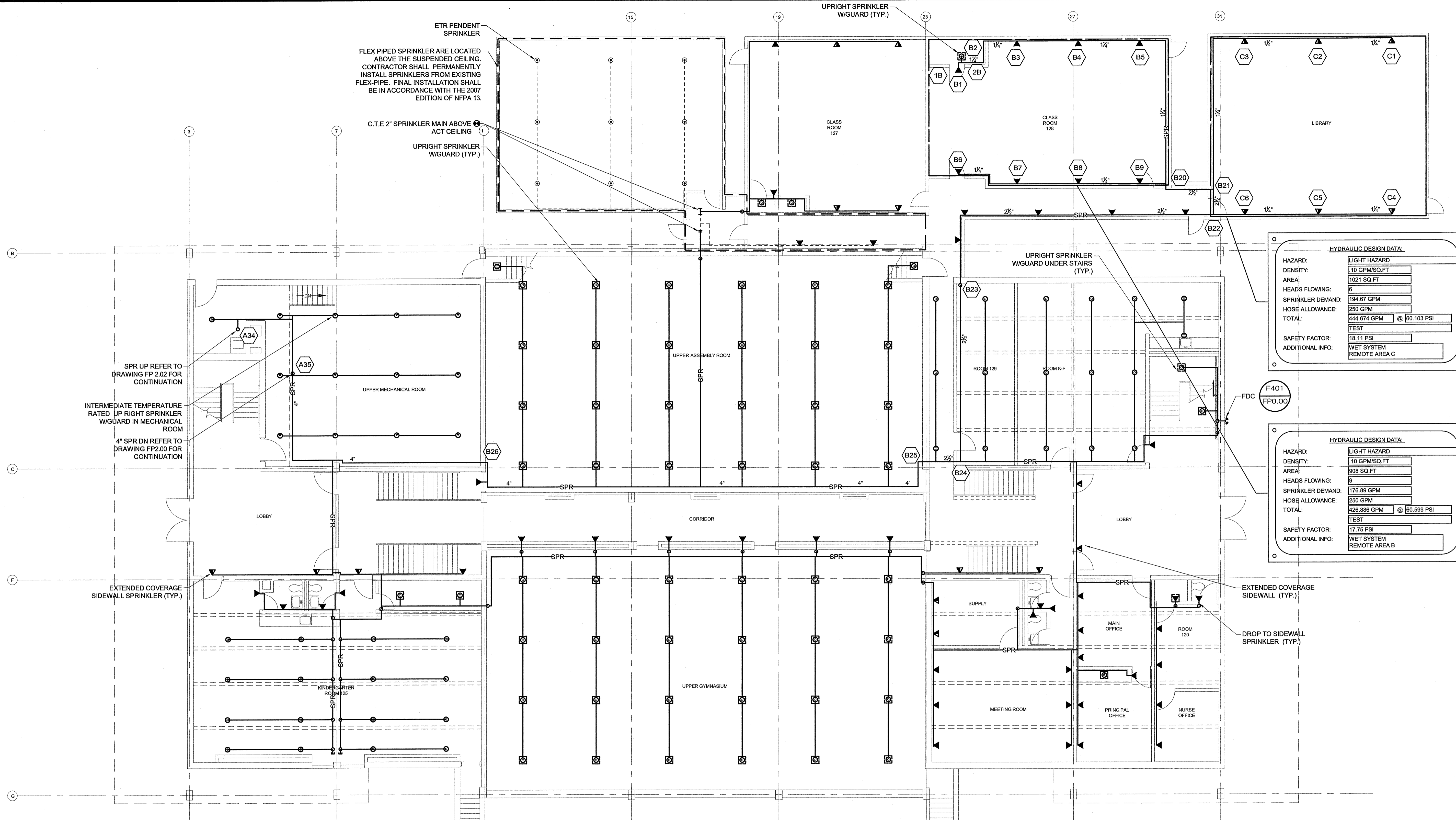
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CHECKED BY  
RM

SCALE  
1/8" = 1'-0"

FIRE PROTECTION  
HORACE MANN  
ENTRY LEVEL PLAN

FP2.01



HYDRAULIC DESIGN DATA:	
HAZARD:	LIGHT HAZARD
DENSITY:	1.10 GPM/SQ.FT
AREA:	1021 SQ.FT
HEADS FLOWING:	6
SPRINKLER DEMAND:	194.67 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	444.674 GPM @ 80.103 PSI
SAFETY FACTOR:	18.11 PSI
ADDITIONAL INFO:	WET SYSTEM REMOTE AREA C

HYDRAULIC DESIGN DATA:	
HAZARD:	LIGHT HAZARD
DENSITY:	1.10 GPM/SQ.FT
AREA:	908 SQ.FT
HEADS FLOWING:	8
SPRINKLER DEMAND:	176.89 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	426.886 GPM @ 80.599 PSI
SAFETY FACTOR:	17.75 PSI
ADDITIONAL INFO:	WET SYSTEM REMOTE AREA B

SPRINKLER SCHEDULE							
SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	FINISH	TEMP RATING
●	EXISTING		PENDENT				
●	NEW	QUICK	CONCEALED PENDENT	STANDERD	5.6	WHITE	ORDINARY
●	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME	ORDINARY
●	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME	ORDINARY
●	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME	INTERMEDIATE
▼	NEW	QUICK	HORIZONTAL SIDEWALL	STANDARD	5.6	WHITE/CHROME	ORDINARY
▼	NEW	QUICK	EXTENDED COVERAGE SIDEWALL	EXTENDED	8.0	WHITE/CHROME	ORDINARY

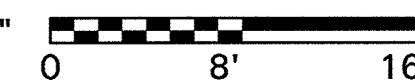
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### NOTES:

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- FLUSH AND HYDROSTATICALLY TEST PER NFPA13 CHAPTER 10.



1/8" = 1' - 0"



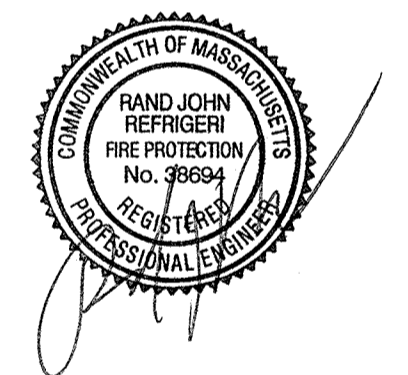
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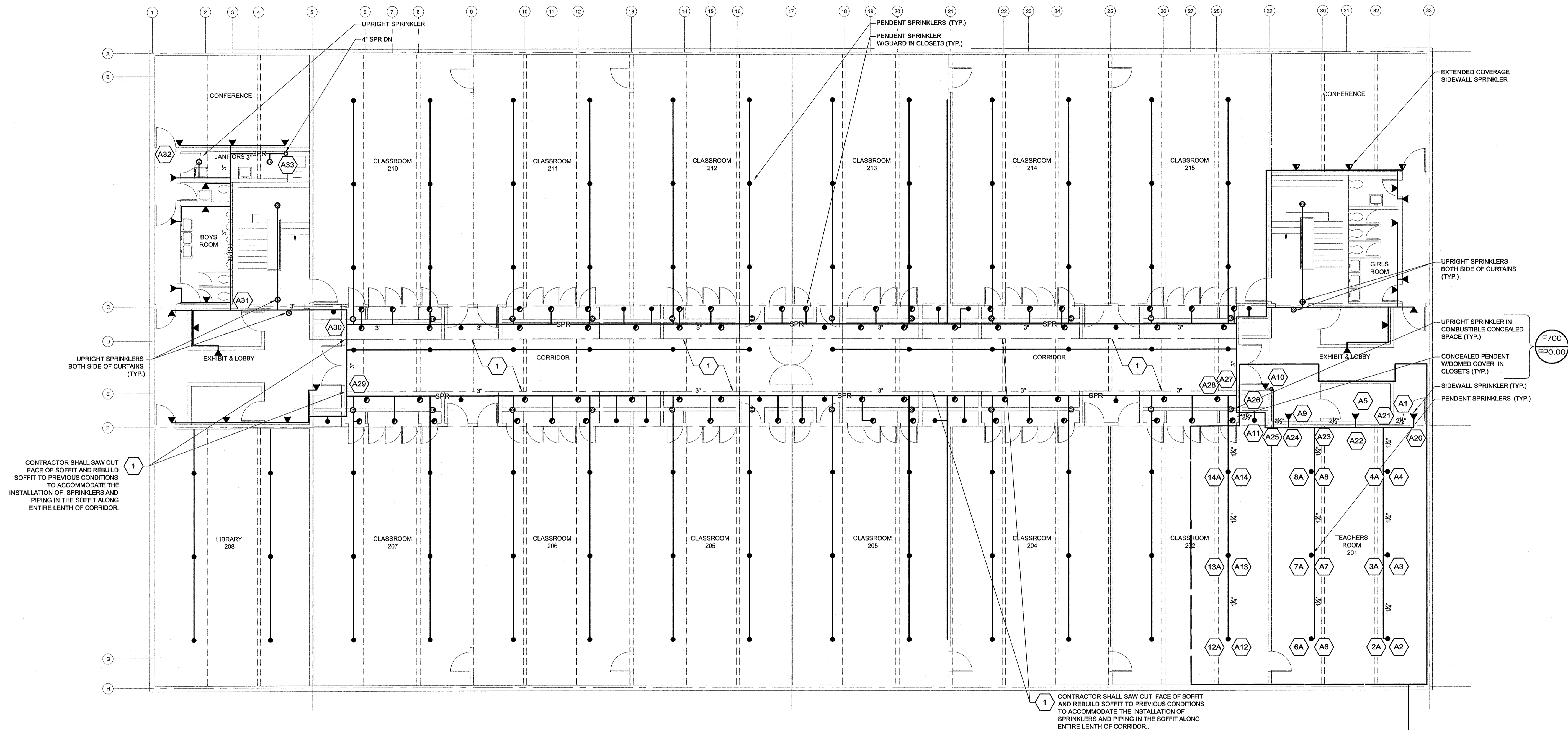
BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

## DRAWING

DRAWN BY  
DDCHECKED BY  
RMSCALE  
1/8" = 1'-0"

FIRE PROTECTION  
HORACE MANN  
UPPER LEVEL PLAN

**BID SET**  
03/09/12



SPRINKLER SCHEDULE

SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	FINISH	TEMP RATING
●	EXISTING	QUICK	PENDENT	STANDERD	5.6	WHITE	ORDINARY
●	NEW	QUICK	CONCEALED PENDENT	STANDERD	5.6	WHITE	ORDINARY
●	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME	ORDINARY
●	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME	ORDINARY
●	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME	INTERMEDIATE
▼	NEW	QUICK	HORIZONTAL SIDEWALL	STANDARD	5.6	WHITE/CHROME	ORDINARY
▼	NEW	QUICK	EXTENDED COVERAGE SIDEWALL	EXTENDED	8.0	WHITE/CHROME	ORDINARY

□ BOX AROUND SPRINKLER HEAD INDICATES CAGE GUARD REQUIRED

## NOTES:

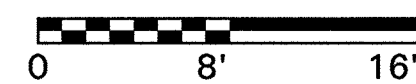
- ALL PIPING TO INDIVIDUAL SPRINKLERS SHALL BE A MINIMUM OF 1"
- SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ALL CEILING ELEMENTS, CONDITIONS, LAYOUT AND HEIGHTS. HEAD LOCATIONS SHALL BE IN ACCORDANCE WITH NFPA 13, WHERE OBSTRUCTIONS REQUIRE ALTERNATE SPRINKLER HEAD LOCATIONS THAN SHOWN ON CONTRACT DOCUMENTS. SPRINKLER HEAD SPACING SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SPACING PER NFPA 13 AND THE MANUFACTURER'S DATA.
- SPRINKLERS SHALL BE INSTALLED A MINIMUM OF 2'-0" AWAY FROM ALL EXIT SIGNS.
- SPRINKLERS SHALL BE SPACED A MINIMUM OF 6'-0" ON CENTER AND A MAXIMUM OF 15'-0" ON CENTER.
- PROVIDE SPRINKLERS UNDER ALL DUCT (OR SIMILAR OBSTRUCTION) OVER 48" WIDE OR IF TWO DUCTS, RUNNING PARALLEL, ARE LESS THAN 12" APART AND THE TOTAL WIDTH IS OVER 48".
- FURNISH RESTRAINTS EQUAL TO MEG-A-LUG JOINT RESTRAINT SYSTEM. ALL FITTINGS EQUIPPED WITH MJ RETAINER GLANDS ON ALL MJ CONNECTIONS IN RETAINING SYSTEM. ALL GLANDS SHALL BE NOT LESS THAN 150 PSI WORKING PRESSURE. GASKET LUBE TO BE FURNISHED BY THE PIPE MANUFACTURER. THE MJ RETAINER GLAND SYSTEM IS TO CONFORM TO ANSI/AWWA C111/A21.11.
- FLUSH AND HYDROSTATICALLY TEST PER NFPA13 CHAPTER 10.

## HYDRAULIC DESIGN DATA:

HAZARD:	LIGHT HAZARD
DENSITY:	10 GPM/SQ.FT
AREA:	1603 SQ.FT
HEADS FLOWING:	14
SPRINKLER DEMAND:	261.83 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	511.825 GPM @ 54.610 PSI
TEST:	23.07 PSI
SAFETY FACTOR:	WET SYSTEM
ADDITIONAL INFO:	REMOTE AREA A



1/8" = 1' - 0"



FP2.02

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## REVISIONS

DATE CHK DESCRIPTION


## SEAL



## PROJECT

NUMBER  
20120013

DATE  
01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

## DRAWING

DRAWN BY  
DD

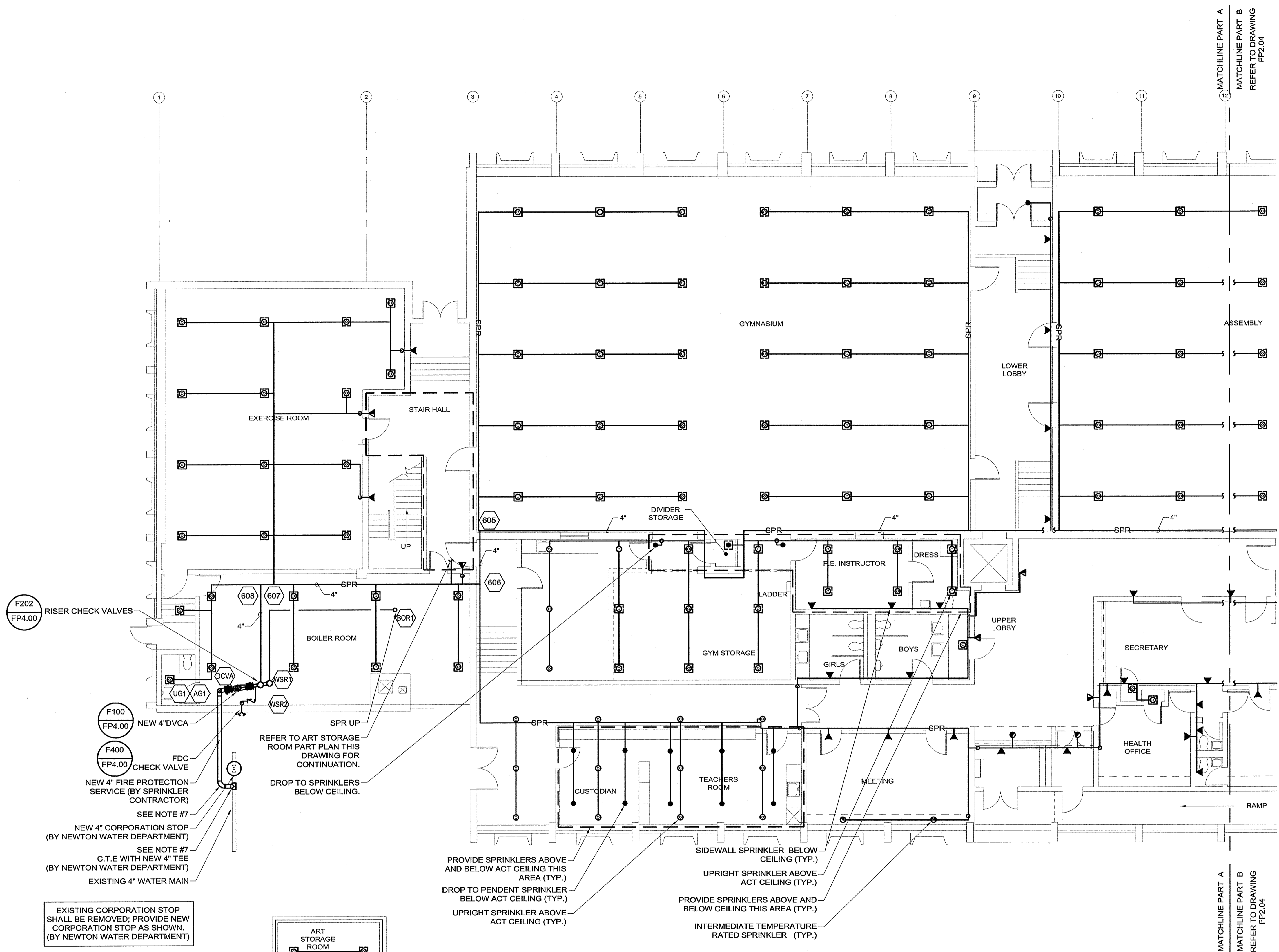
CHECKED BY  
RM

SCALE  
1/8" = 1'-0"

FIRE PROTECTION  
BURR SCHOOL  
FIRST FLOOR PLAN A

**BID SET**  
03/09/12

**FP2.03**

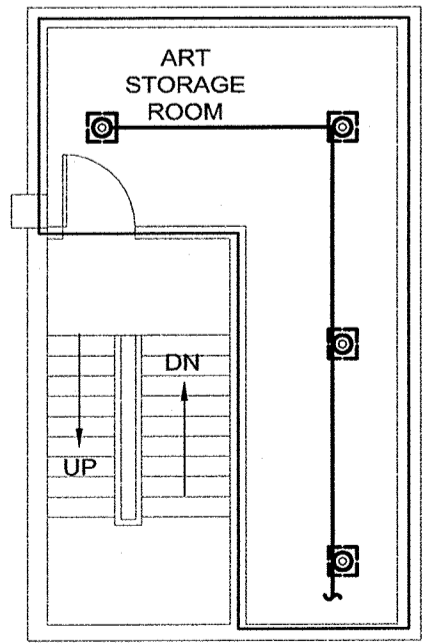


EXISTING CORPORATION STOP SHALL BE REMOVED; PROVIDE NEW CORPORATION STOP AS SHOWN. (BY NEWTON WATER DEPARTMENT)

SEE NOTE #7  
NEW 4" CORPORATION STOP (BY NEWTON WATER DEPARTMENT)  
SEE NOTE #7  
C.T.E WITH NEW 4" TEE (BY NEWTON WATER DEPARTMENT)  
EXISTING 4" WATER MAIN

F100  
FP4.00  
NEW 4" DVCA  
F400  
FP4.00  
CHECK VALVE  
NEW 4" FIRE PROTECTION SERVICE (BY SPRINKLER CONTRACTOR)

F202  
FP4.00  
RISER CHECK VALVES



ART STORAGE ROOM  
PART PLAN  
SCALE: 1/8"=1'-0"

SPRINKLER SCHEDULE						
SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	TEMP RATING
⊙	EXISTING		PENDENT			
⊙	NEW	QUICK	CONCEALED PENDENT	STANDERD	5.6	WHITE
⊙*	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME
●*	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME
⊙*	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME
▼	NEW	QUICK	HORIZONTAL SIDEWALL	STANDARD	5.6	WHITE/CHROME
▼	NEW	QUICK	EXTENDED COVERAGE SIDEWALL	EXTENDED	8.0	WHITE/CHROME

\* BOX AROUND SPRINKLER HEAD INDICATES CAGE GUARD REQUIRED

- NOTES:
- ALL PIPING TO INDIVIDUAL SPRINKLERS SHALL BE A MINIMUM OF 1"
  - SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ALL CEILING ELEMENTS, CONDITIONS, LAYOUT AND HEIGHTS. HEAD LOCATIONS SHALL BE IN ACCORDANCE WITH NFPA 13. WHERE OBSTRUCTIONS REQUIRE ALTERNATE SPRINKLER HEAD LOCATIONS THAN SHOWN ON CONTRACT DOCUMENTS, SPRINKLER HEAD SPACING SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SPACING PER NFPA 13 AND THE MANUFACTURER'S DATA.
  - SPRINKLERS SHALL BE INSTALLED A MINIMUM OF 2'-0" AWAY FROM ALL EXIT SIGNS.
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  - PROVIDE SPRINKLERS UNDER ALL DUCT (OR SIMILAR OBSTRUCTION) OVER 48" WIDE OR IF TWO DUCTS, RUNNING PARALLEL, ARE LESS THAN 12" APART AND THE TOTAL WIDTH IS OVER 48".
  - FURNISH RESTRAINTS EQUAL TO MEG-A-LUG JOINT RESTRAINT SYSTEM. ALL FITTINGS EQUIPPED WITH MJ RETAINER GLANDS ON ALL MJ CONNECTIONS IN RETAINING SYSTEM. ALL GLANDS SHALL BE NOT LESS THAN 150 PSI WORKING PRESSURE. GASKET LUBE TO BE FURNISHED BY THE PIPE MANUFACTURER. THE MJ RETAINER GLAND SYSTEM IS TO CONFORM TO ANSI/AWWA C111/A21.11.
  - FLUSH AND HYDROSTATICALLY TEST PER NFPA13 CHAPTER 10.



1/8" = 1' - 0"

0 8' 16'

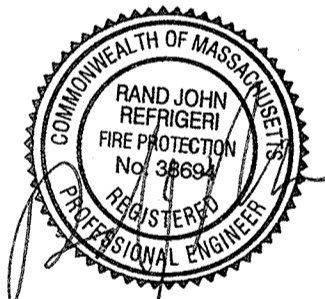
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▲ DATE CHK DESCRIPTION

DATE	CHK	DESCRIPTION

## SEAL



## PROJECT

NUMBER  
20120013

DATE  
01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

## DRAWING

DRAWN BY  
DD

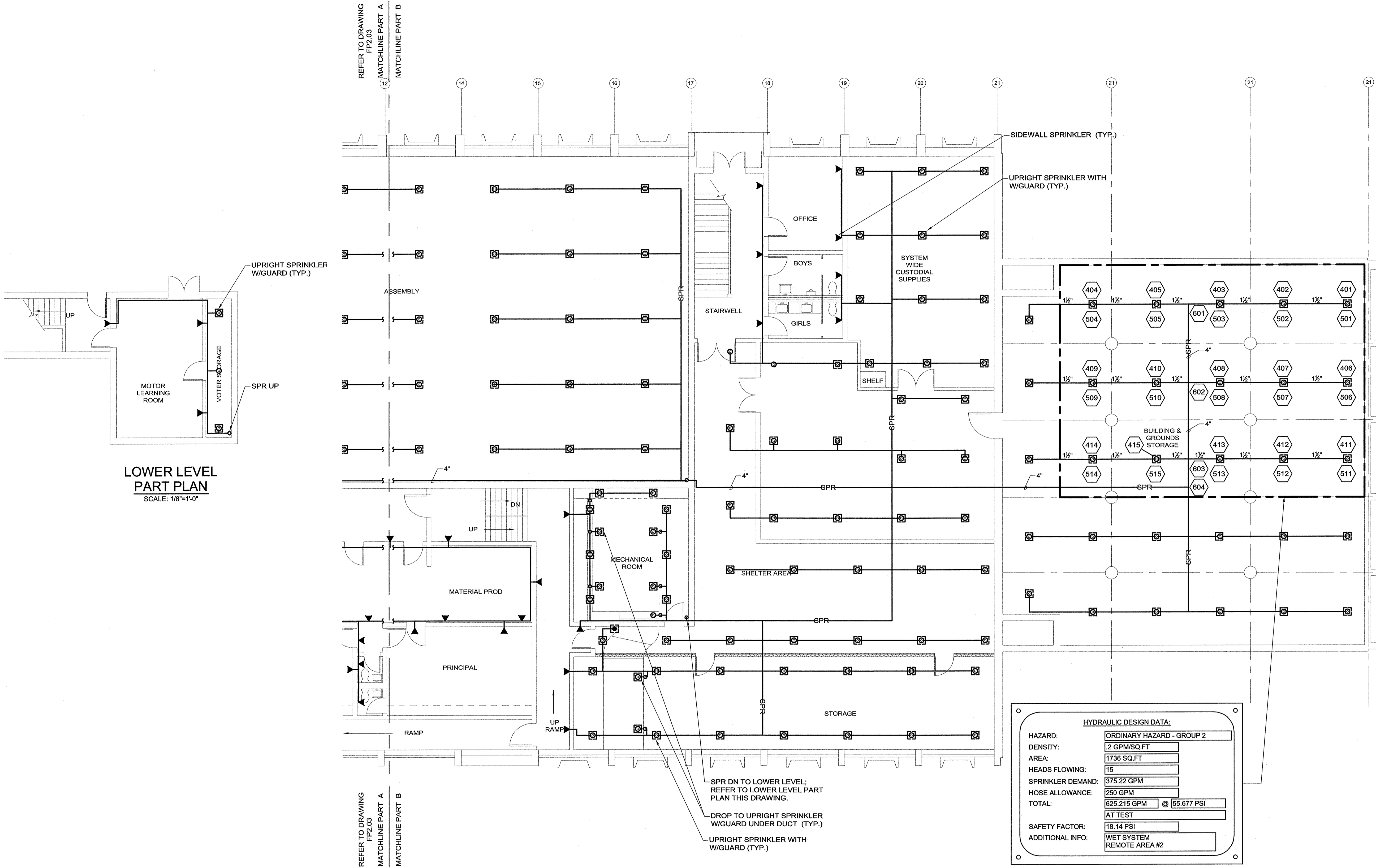
CHECKED BY  
RM

SCALE  
1/8" = 1'-0"

FIRE PROTECTION  
BURR SCHOOL  
FIRST FLOOR PLAN B

**BID SET**  
03/09/12

**FP2.04**



**LOWER LEVEL  
PART PLAN**  
SCALE: 1/8"=1'-0"

SPRINKLER SCHEDULE						
SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	TEMP RATING
⊙	EXISTING		PENDENT			
⊙	NEW	QUICK	CONCEALED PENDENT	STANDERD	5.6	WHITE
⊙*	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME
●*	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME
⊙*	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME
▼	NEW	QUICK	HORIZONTAL SIDEWALL	STANDARD	5.6	WHITE/CHROME
▽	NEW	QUICK	EXTENDED COVERAGE SIDEWALL	EXTENDED	8.0	WHITE/CHROME

\* BOX AROUND SPRINKLER HEAD INDICATES CAGE GUARD REQUIRED

HYDRAULIC DESIGN DATA:	
HAZARD:	ORDINARY HAZARD - GROUP 2
DENSITY:	2 GPM/SQ.FT
AREA:	1736 SQ.FT
HEADS FLOWING:	15
SPRINKLER DEMAND:	375.22 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	625.215 GPM @ 55.677 PSI
SAFETY FACTOR:	AT TEST
ADDITIONAL INFO:	18.14 PSI
	WET SYSTEM
	REMOTE AREA #2

- NOTES:**
- ALL PIPING TO INDIVIDUAL SPRINKLERS SHALL BE A MINIMUM OF 1"
  - SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ALL CEILING ELEMENTS, CONDITIONS, LAYOUT AND HEIGHTS. HEAD LOCATIONS SHALL BE IN ACCORDANCE WITH NFPA 13. WHERE OBSTRUCTIONS REQUIRE ALTERNATE SPRINKLER HEAD LOCATIONS THAN SHOWN ON CONTRACT DOCUMENTS, SPRINKLER HEAD SPACING SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SPACING PER NFPA 13 AND THE MANUFACTURER'S DATA.
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  - PROVIDE SPRINKLERS UNDER ALL DUCT (OR SIMILAR OBSTRUCTION) OVER 48" WIDE OR IF TWO DUCTS, RUNNING PARALLEL, ARE LESS THAN 12" APART AND THE TOTAL WIDTH IS OVER 48".
  - FURNISH RESTRAINTS EQUAL TO MEG-A-LUG JOINT RESTRAINT SYSTEM. ALL FITTINGS EQUIPPED WITH MJ RETAINER GLANDS ON ALL MJ CONNECTIONS IN RETAINING SYSTEM. ALL GLANDS SHALL BE NOT LESS THEN 150 PSI WORKING PRESSURE. GASKET LUBE TO BE FURNISHED BY THE PIPE MANUFACTURER. THE MJ RETAINER GLAND SYSTEM IS TO CONFORM TO ANSI/AWWA C111/A21.11.
  - FLUSH AND HYDROSTATICALLY TEST PER NFPA13 CHAPTER 10.



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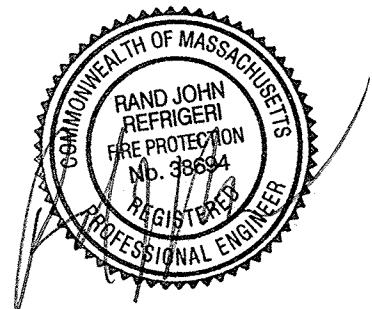
0 8' 16'

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DATE:  
01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

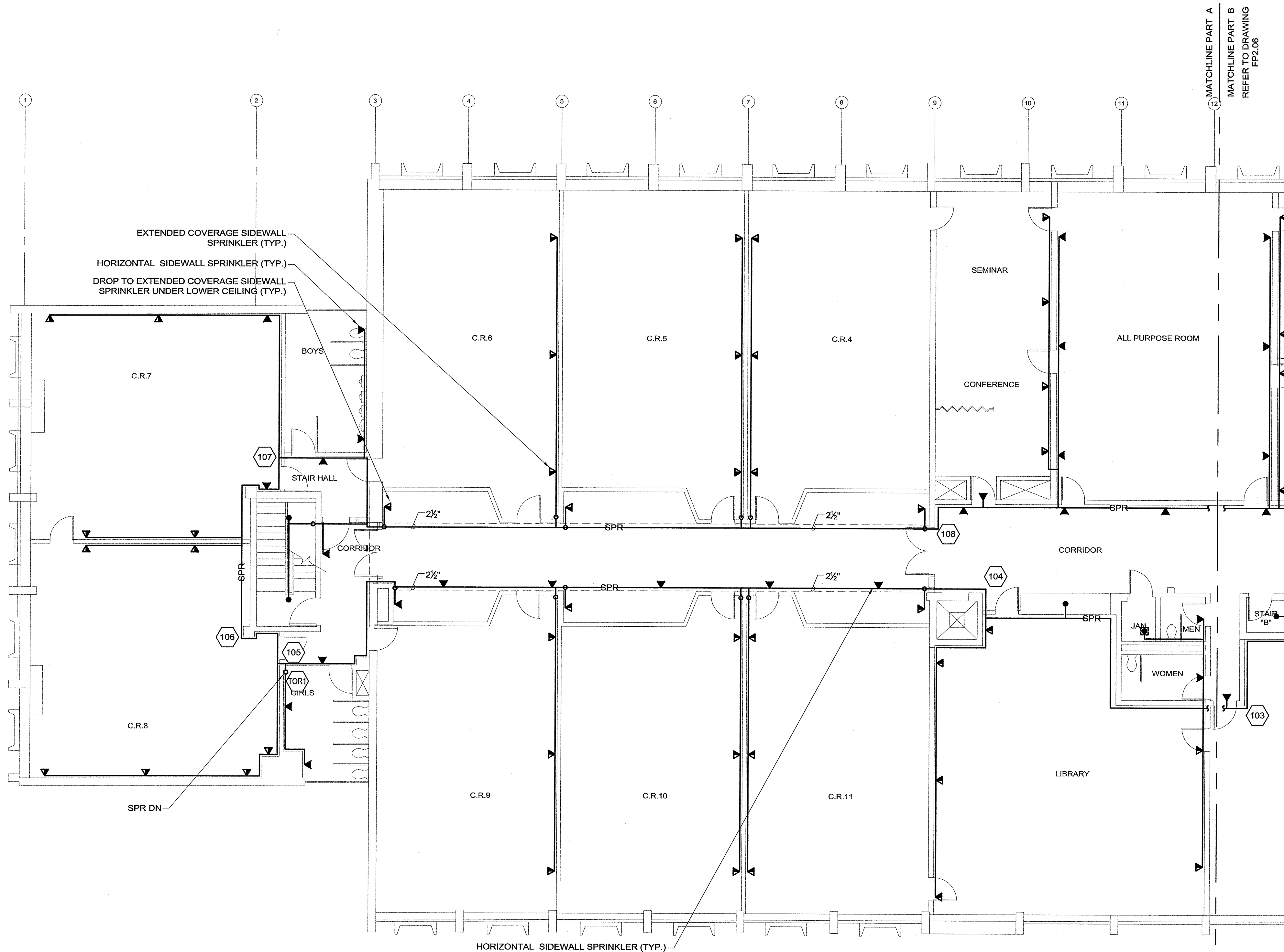
## DRAWING

DRAWN BY:  
DD

CHECKED BY:  
RM

SCALE:  
1/8" = 1'-0"

FIRE PROTECTION  
BURR SCHOOL  
SECOND FLOOR PLAN A

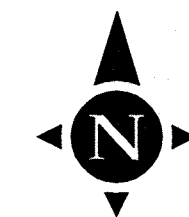


SPRINKLER SCHEDULE							
SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	FINISH	TEMP RATING
⊙	EXISTING		PENDENT				
⊙*	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME	ORDINARY
●	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME	ORDINARY
⊙*	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME	INTERMEDIATE
▼	NEW	QUICK	HORIZONTAL SIDEWALL	STANDARD	5.6	WHITE/CHROME	ORDINARY
▼	NEW	QUICK	EXTENDED COVERAGE SIDEWALL	EXTENDED	8.0	WHITE/CHROME	ORDINARY

\* BOX AROUND SPRINKLER HEAD INDICATES CAGE GUARD REQUIRED

### NOTES:

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1/8" = 1' - 0"

0 8' 16'

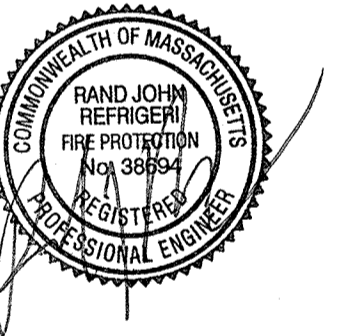
**FP2.05**

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### SEAL



### PROJECT

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DATE  
01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

### DRAWING

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DD

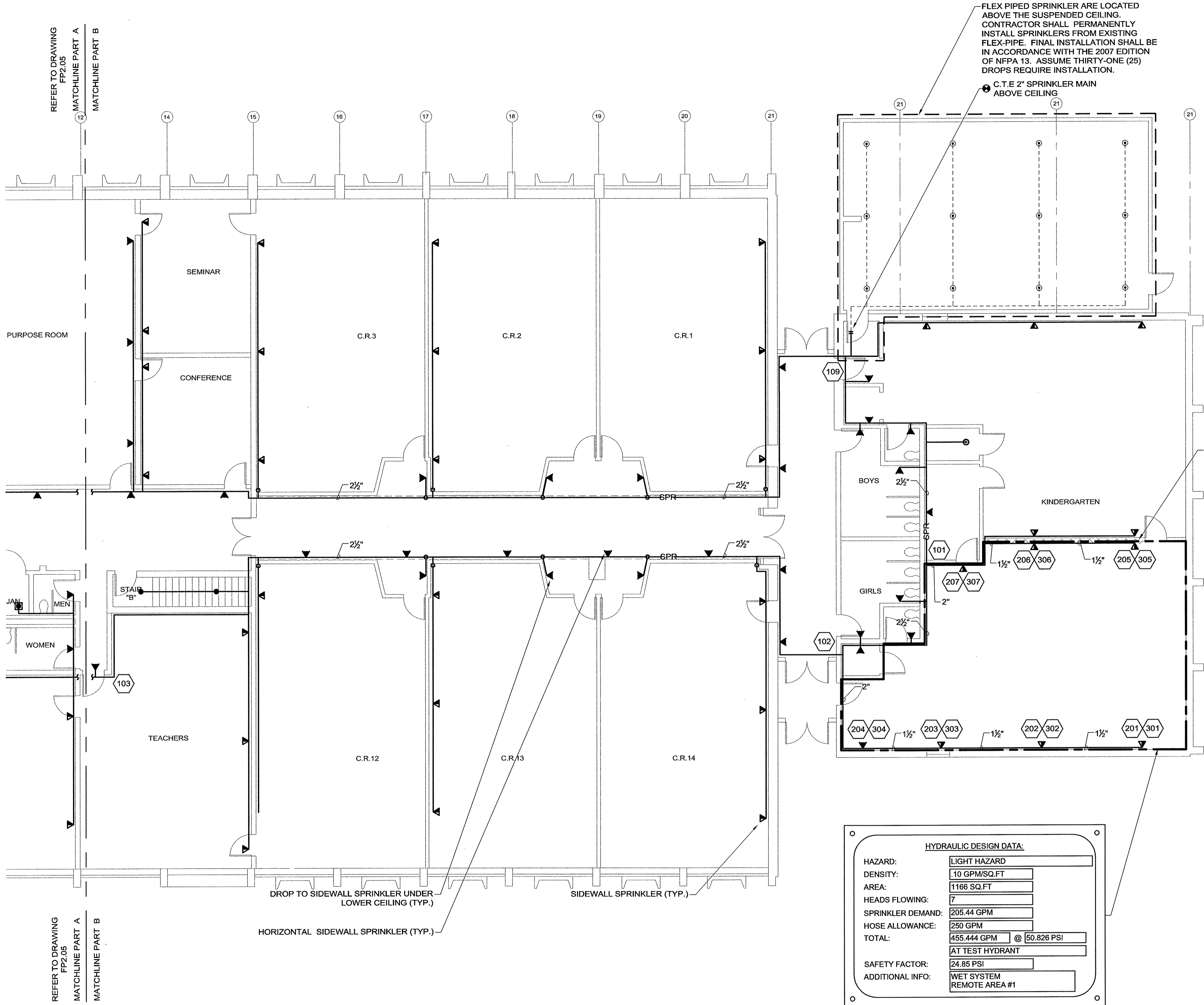
CHECKED BY  
RM

SCALE  
1/8" = 1'-0"

FIRE PROTECTION  
BURR SCHOOL  
SECOND FLOOR PLAN B

BID SET  
03/09/12

FP2.06



SPRINKLER SCHEDULE							
SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	FINISH	TEMP RATING
⊙	EXISTING		PENDENT				
⊙*	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME	ORDINARY
●	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME	ORDINARY
⊙*	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME	INTERMEDIATE
▼	NEW	QUICK	HORIZONTAL SIDEWALL	STANDARD	5.6	WHITE/CHROME	ORDINARY
▼	NEW	QUICK	EXTENDED COVERAGE SIDEWALL	EXTENDED	8.0	WHITE/CHROME	ORDINARY

\* BOX AROUND SPRINKLER HEAD INDICATES CAGE GUARD REQUIRED

- NOTES:
- ALL PIPING TO INDIVIDUAL SPRINKLERS SHALL BE A MINIMUM OF 1"
  - SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ALL CEILING ELEMENTS, CONDITIONS, LAYOUT AND HEIGHTS. HEAD LOCATIONS SHALL BE IN ACCORDANCE WITH NFPA 13. WHERE OBSTRUCTIONS REQUIRE ALTERNATE SPRINKLER HEAD LOCATIONS THAN SHOWN ON CONTRACT DOCUMENTS, SPRINKLER HEAD SPACING SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SPACING PER NFPA 13 AND THE MANUFACTURER'S DATA.
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  - FLUSH AND HYDROSTATICALLY TEST PER NFPA13 CHAPTER 10.



1/8" = 1'-0"  
0 8' 16'

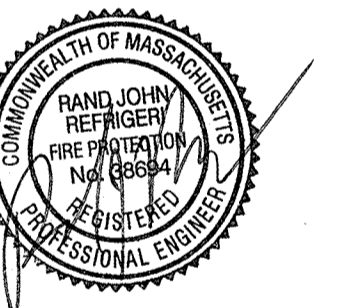
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**BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461**

## DRAWING

DRAWN BY  
DD

CHECKED BY  
RM

SCALE  
1/8" = 1'-0"

**FIRE PROTECTION  
ZERVAS SCHOOL  
FIRST FLOOR PLAN A**

**BID SET**  
03/09/12

**FP2.07**

REFER TO MODULAR  
CLASS ROOMS PART  
PLAN THIS DRAWING  
MATCHLINE PART C

REFER TO MODULAR  
CLASS ROOMS PART  
PLAN THIS DRAWING  
MATCHLINE PART C

UPRIGHT SPRINKLERS  
BELOW FLOOR IN  
COMBUSTIBLE CONCEALED  
SPACE; PIPING SHALL BE  
GALVANIZED (TYP.)

MATCHLINE PART A  
MATCHLINE PART B  
REFER TO DRAWING  
FP2.08

HYDRAULIC DESIGN DATA:	
HAZARD:	ORDINARY HAZARD GROUP II
DENSITY:	20 GPM/SQ.FT
AREA:	667 SQ.FT
HEADS FLOWING:	9
SPRINKLER DEMAND:	198.97 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	448.969 GPM @ 49.835 PSI
SAFETY FACTOR:	AT TEST HYDRANT
ADDITIONAL INFO:	12.61 PSI
	WET SYSTEM
	REMOTE AREA #3

**FAN ROOM  
PART PLAN**  
SCALE: 1/8"=1'-0"

**LOWER BOILER ROOM  
PART PLAN**  
SCALE: 1/8"=1'-0"

**MODULAR CLASS ROOMS  
PART PLAN**  
SCALE: 1/8"=1'-0"

EXTENDED COVERAGE  
SIDEWALL SPRINKLER (TYP.)  
INTERMEDIATE TEMPERATURE  
RATED SPRINKLER IN  
SKYLIGHT (TYP.)  
UPRIGHT SPRINKLER  
W/GUARD (TYP.)

HYDRAULIC DESIGN DATA:	
HAZARD:	LIGHT HAZARD
DENSITY:	10 GPM/SQ.FT
AREA:	1119 SQ.FT
HEADS FLOWING:	4
SPRINKLER DEMAND:	176.85 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	426.846 GPM @ 42.994 PSI
SAFETY FACTOR:	AT TEST HYDRANT
ADDITIONAL INFO:	19.94 PSI
	WET SYSTEM
	REMOTE AREA #4

HYDRAULIC DESIGN DATA:	
HAZARD:	LIGHT HAZARD
DENSITY:	10 GPM/SQ.FT
AREA:	906 SQ.FT
HEADS FLOWING:	10
SPRINKLER DEMAND:	169.25 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	419.252 GPM @ 40.355 PSI
SAFETY FACTOR:	AT TEST HYDRANT
ADDITIONAL INFO:	22.75 PSI
	WET SYSTEM
	REMOTE AREA #1

FLEX PIPED SPRINKLER ARE LOCATED  
ABOVE THE SUSPENDED CEILING.  
CONTRACTOR SHALL PERMANENTLY  
INSTALL SPRINKLERS FROM EXISTING  
FLEX-PIPE. FINAL INSTALLATION SHALL BE  
IN ACCORDANCE WITH THE 2007 EDITION  
OF NFPA 13.

- NOTES:**
- ALL PIPING TO INDIVIDUAL SPRINKLERS SHALL BE A MINIMUM OF 1"
  - SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ALL CEILING ELEMENTS, CONDITIONS, LAYOUT AND HEIGHTS. HEAD LOCATIONS SHALL BE IN ACCORDANCE WITH NFPA 13, WHERE OBSTRUCTIONS REQUIRE ALTERNATE SPRINKLER HEAD LOCATIONS THAN SHOWN ON CONTRACT DOCUMENTS, SPRINKLER HEAD SPACING SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SPACING PER NFPA 13 AND THE MANUFACTURER'S DATA.
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  - FLUSH AND HYDROSTATICALLY TEST PER NFPA13 CHAPTER 10.

SPRINKLER SCHEDULE							
SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	FINISH	TEMP RATING
⊙	EXISTING		PENDENT				
⊙	NEW	QUICK	CONCEALED PENDENT	STANDERD	5.6	WHITE	ORDINARY
⊙ *	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME	ORDINARY
⊙	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME	ORDINARY
⊙ *	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME	INTERMEDIATE

HYDRAULIC DESIGN DATA:	
HAZARD:	LIGHT HAZARD
DENSITY:	10 GPM/SQ.FT
AREA:	1044 SQ.FT
HEADS FLOWING:	5
SPRINKLER DEMAND:	153.75 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	403.754 GPM @ 41.764 PSI
SAFETY FACTOR:	AT PUMP DISCHARGE
ADDITIONAL INFO:	21.67 PSI
	WET SYSTEM
	REMOTE AREA #2



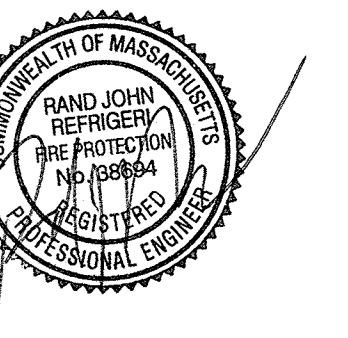
1/8" = 1'-0"  
0 8' 16'

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BURR, ZERVAS AND  
HORACE MANN  
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FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

## DRAWING

DRAWN BY  
DD

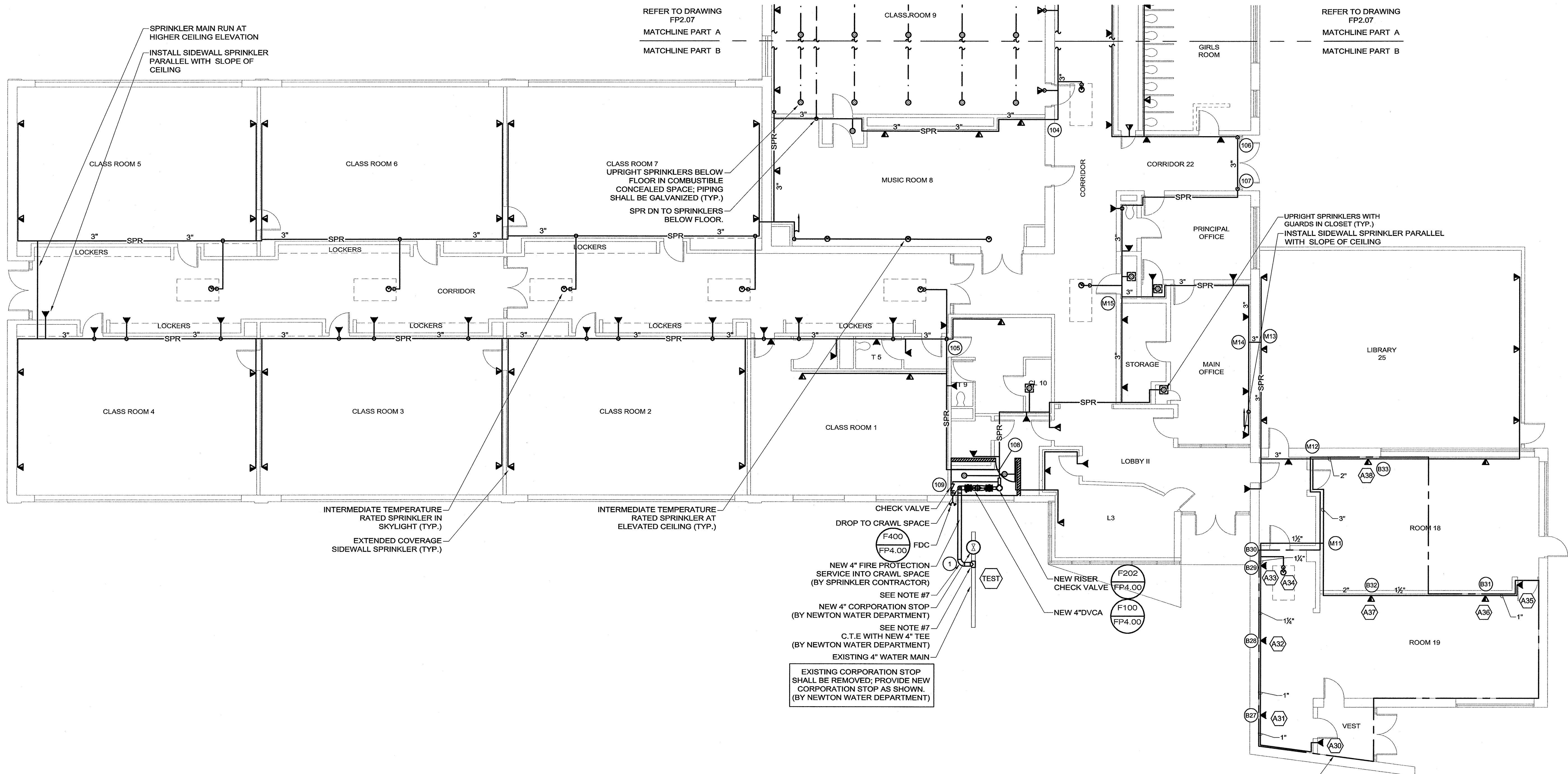
CHECKED BY  
RM

SCALE  
1/8" = 1'-0"

FIRE PROTECTION  
ZERVAS SCHOOL  
FIRST FLOOR PLAN B

**BID SET**  
03/09/12

**FP2.08**



REFER TO DRAWING  
FP2.07  
MATCHLINE PART A  
MATCHLINE PART B

REFER TO DRAWING  
FP2.07  
MATCHLINE PART A  
MATCHLINE PART B

CLASS ROOM 7  
UPRIGHT SPRINKLERS BELOW  
FLOOR IN COMBUSTIBLE  
CONCEALED SPACE; PIPING  
SHALL BE GALVANIZED (TYP.)  
SPR DN TO SPRINKLERS  
BELOW FLOOR.

UPRIGHT SPRINKLERS WITH  
GUARDS IN CLOSET (TYP.)  
INSTALL SIDEWALL SPRINKLER PARALLEL  
WITH SLOPE OF CEILING

INTERMEDIATE TEMPERATURE  
RATED SPRINKLER IN  
SKYLIGHT (TYP.)  
EXTENDED COVERAGE  
SIDEWALL SPRINKLER (TYP.)

INTERMEDIATE TEMPERATURE  
RATED SPRINKLER AT  
ELEVATED CEILING (TYP.)

CHECK VALVE  
DROP TO CRAWL SPACE  
F400  
F4.00  
FDC  
NEW 4" FIRE PROTECTION  
SERVICE INTO CRAWL SPACE  
(BY SPRINKLER CONTRACTOR)  
SEE NOTE #7  
NEW 4" CORPORATION STOP  
(BY NEWTON WATER DEPARTMENT)  
SEE NOTE #7  
C.T.E WITH NEW 4" TEE  
(BY NEWTON WATER DEPARTMENT)  
EXISTING 4" WATER MAIN  
EXISTING CORPORATION STOP  
SHALL BE REMOVED; PROVIDE NEW  
CORPORATION STOP AS SHOWN,  
(BY NEWTON WATER DEPARTMENT)

NEW RISER  
CHECK VALVE  
F202  
F4.00  
NEW 4" DVCA  
F100  
F4.00

- NOTES:
- ALL PIPING TO INDIVIDUAL SPRINKLERS SHALL BE A MINIMUM OF 1"
  - SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ALL CEILING ELEMENTS, CONDITIONS, LAYOUT AND HEIGHTS. HEAD LOCATIONS SHALL BE IN ACCORDANCE WITH NFPA 13, WHERE OBSTRUCTIONS REQUIRE ALTERNATE SPRINKLER HEAD LOCATIONS THAN SHOWN ON CONTRACT DOCUMENTS. SPRINKLER HEAD SPACING SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SPACING PER NFPA 13 AND THE MANUFACTURER'S DATA.
  - SPRINKLERS SHALL BE INSTALLED A MINIMUM OF 2'-0" AWAY FROM ALL EXIT SIGNS.
  - SPRINKLERS SHALL BE SPACED A MINIMUM OF 6'-0" ON CENTER AND A MAXIMUM OF 15'-0" ON CENTER
  - PROVIDE SPRINKLERS UNDER ALL DUCT (OR SIMILAR OBSTRUCTION) OVER 48" WIDE OR IF TWO DUCTS, RUNNING PARALLEL, ARE LESS THAN 12" APART AND THE TOTAL WIDTH IS OVER 48"
  - FURNISH RESTRAINTS EQUAL TO MEG-A-LUG JOINT RESTRAINT SYSTEM. ALL FITTINGS EQUIPPED WITH MJ RETAINER GLANDS. ON ALL MJ CONNECTIONS IN RETAINING SYSTEM, ALL GLANDS SHALL BE NOT LESS THAN 150 PSI WORKING PRESSURE. GASKET LUBE TO BE FURNISHED BY THE PIPE MANUFACTURER. THE MJ RETAINER GLAND SYSTEM IS TO CONFORM TO ANSI/AWWA C111/A21.11.
  - FLUSH AND HYDROSTATICALLY TEST PER NFPA13 CHAPTER 10.

HYDRAULIC DESIGN DATA:	
HAZARD:	LIGHT HAZARD
DENSITY:	1.10 GPM/SQ.FT
AREA:	1183 SQ.FT
HEADS FLOWING:	8
SPRINKLER DEMAND:	220.7 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	470.703 GPM @ 45.293 PSI
SAFETY FACTOR:	16.64 PSI
ADDITIONAL INFO:	WET SYSTEM REMOTE AREA #5

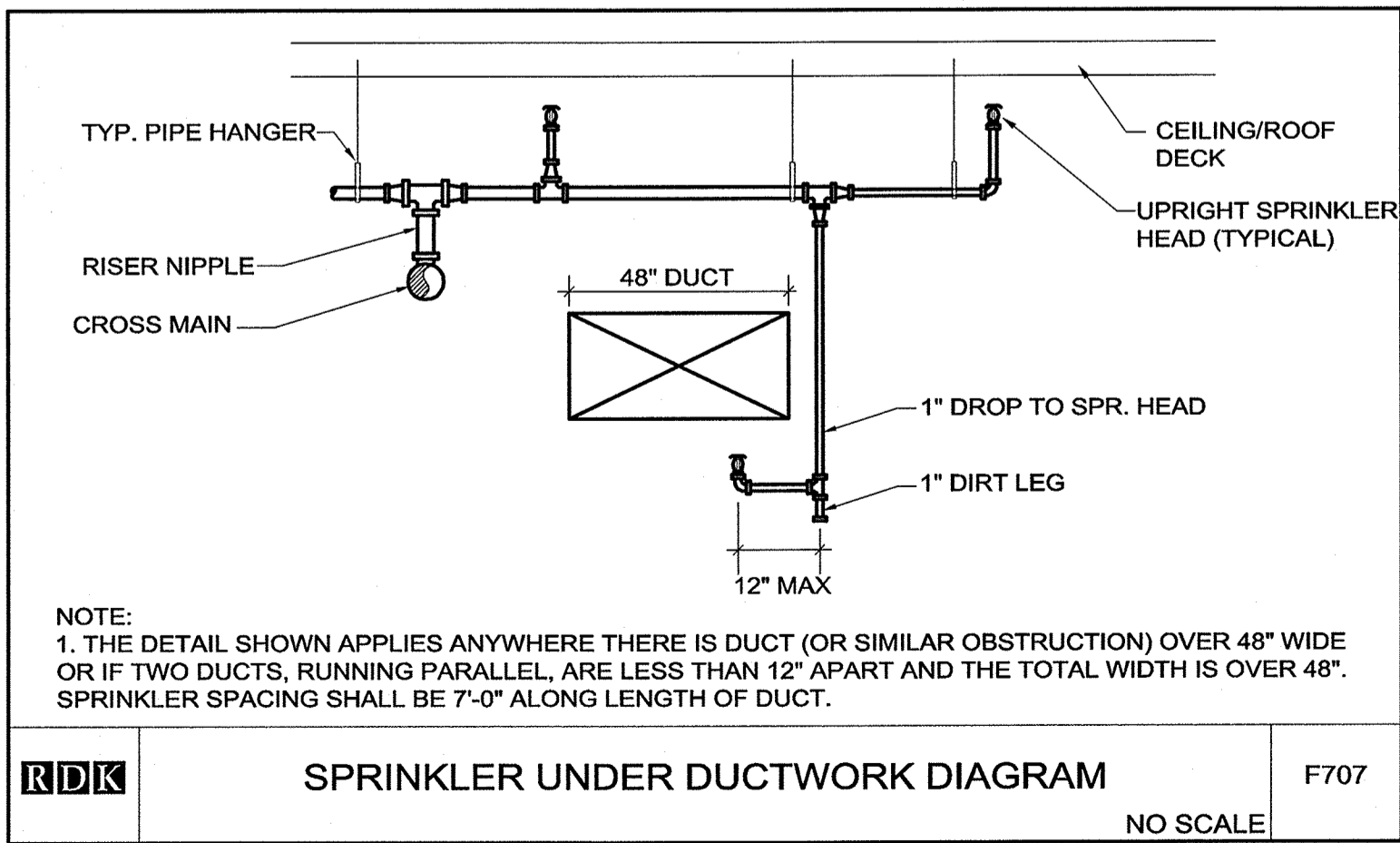
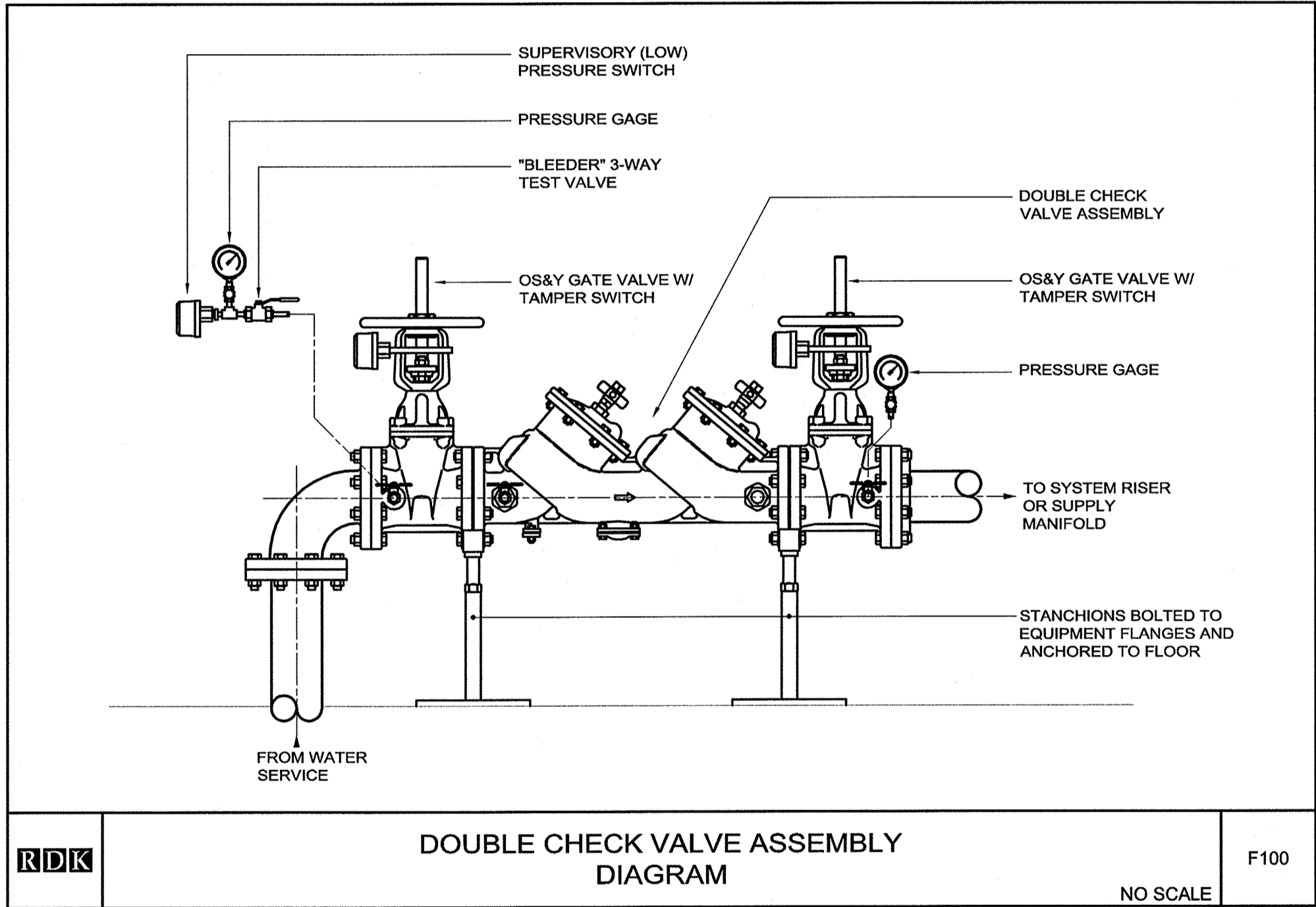
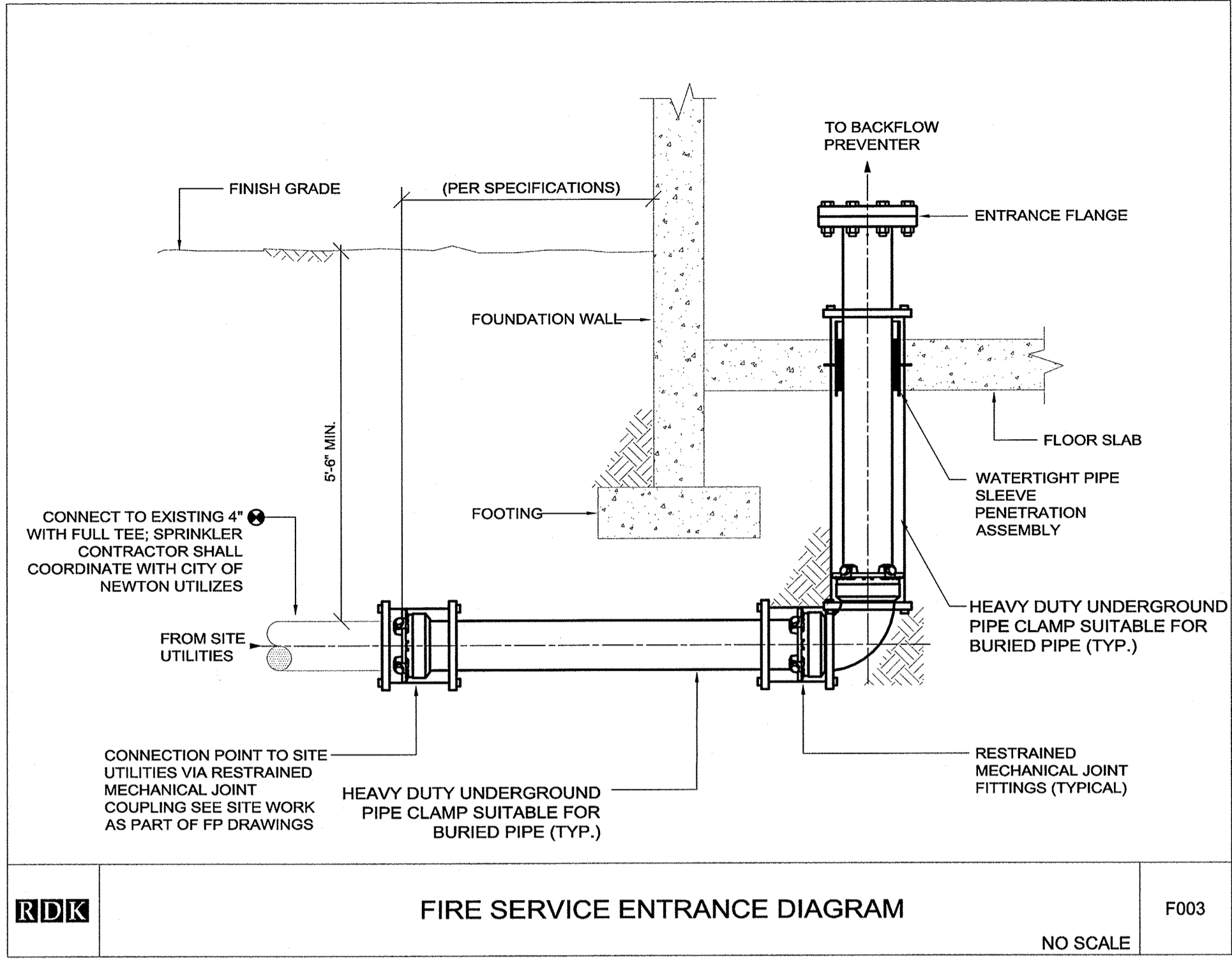
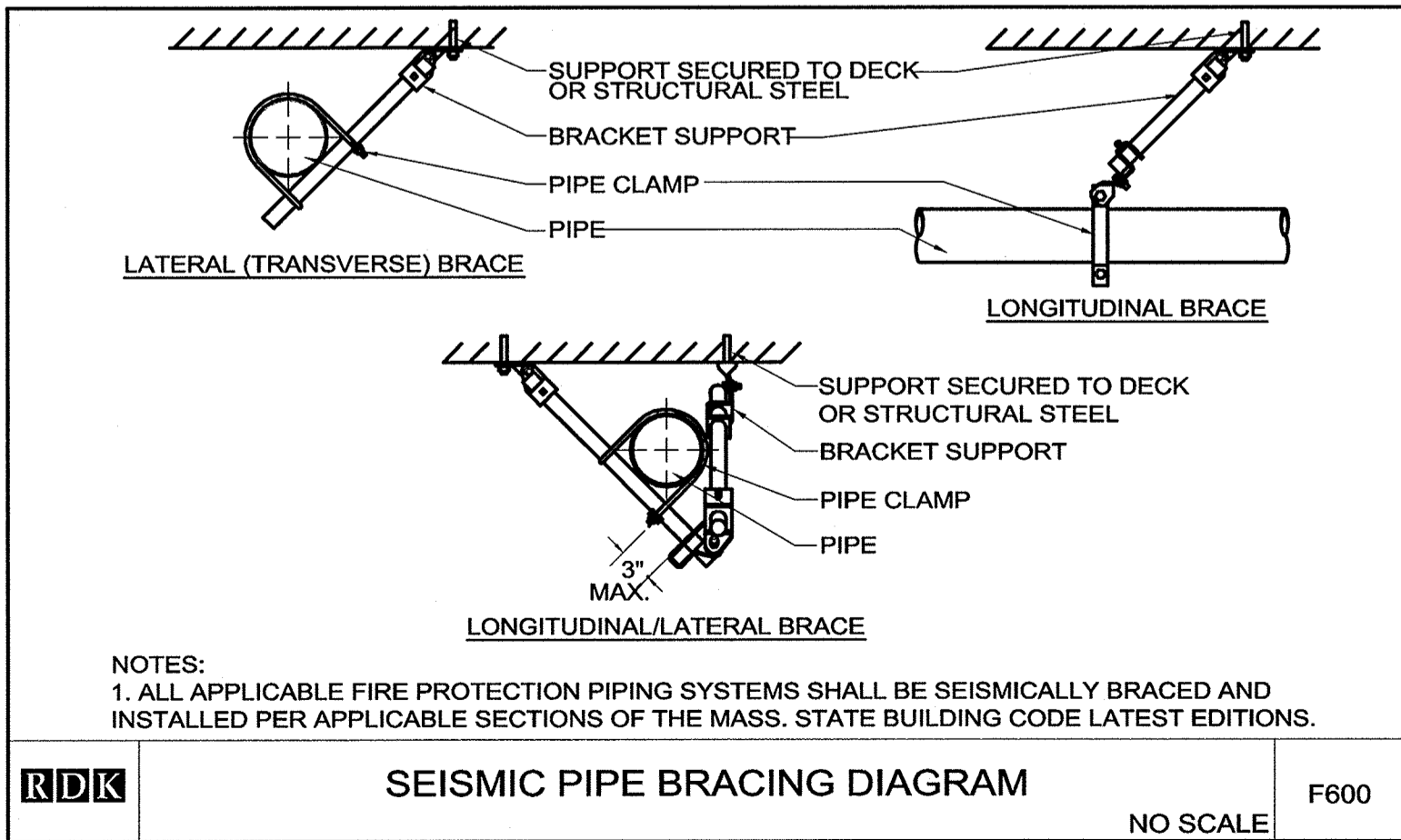
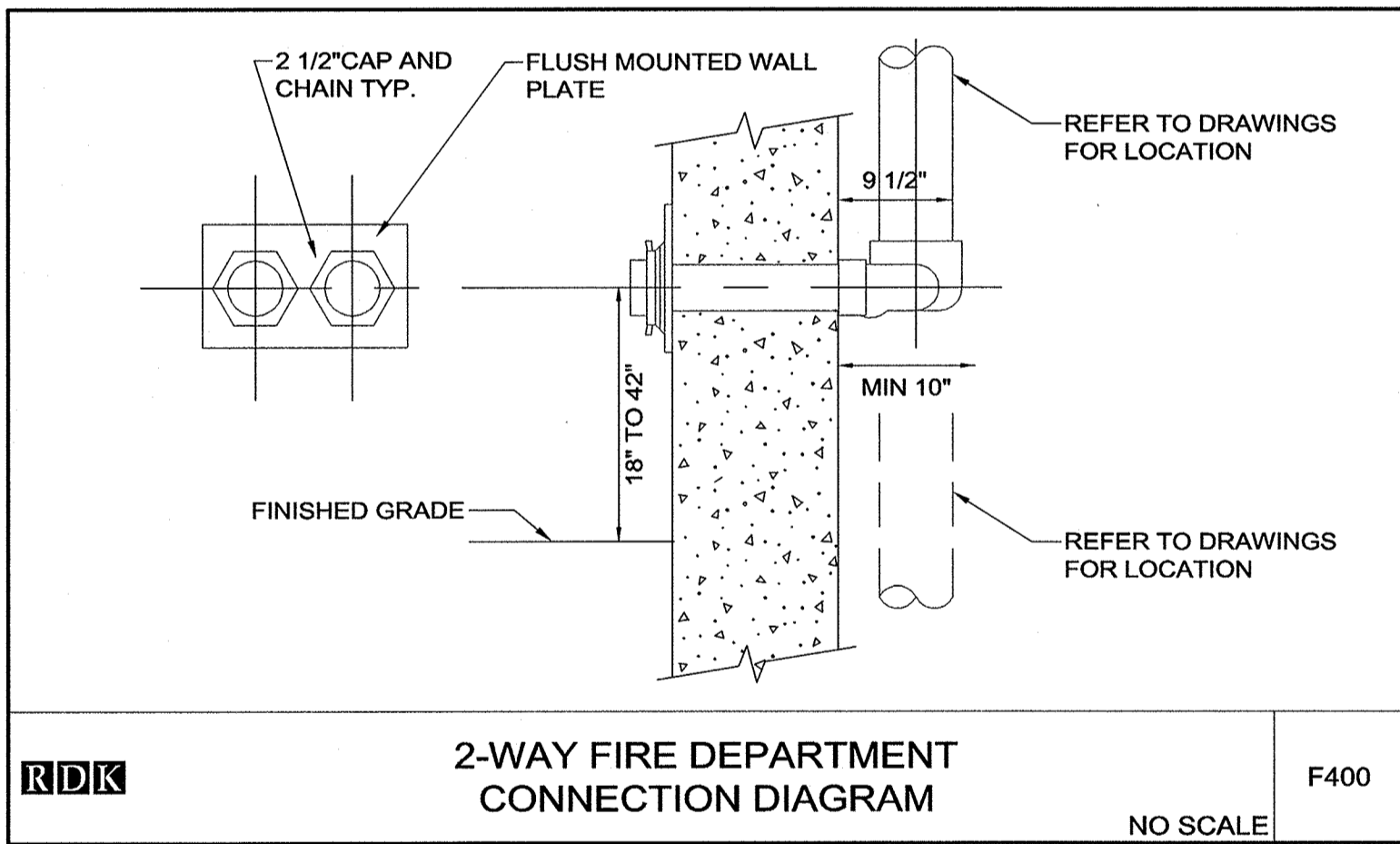
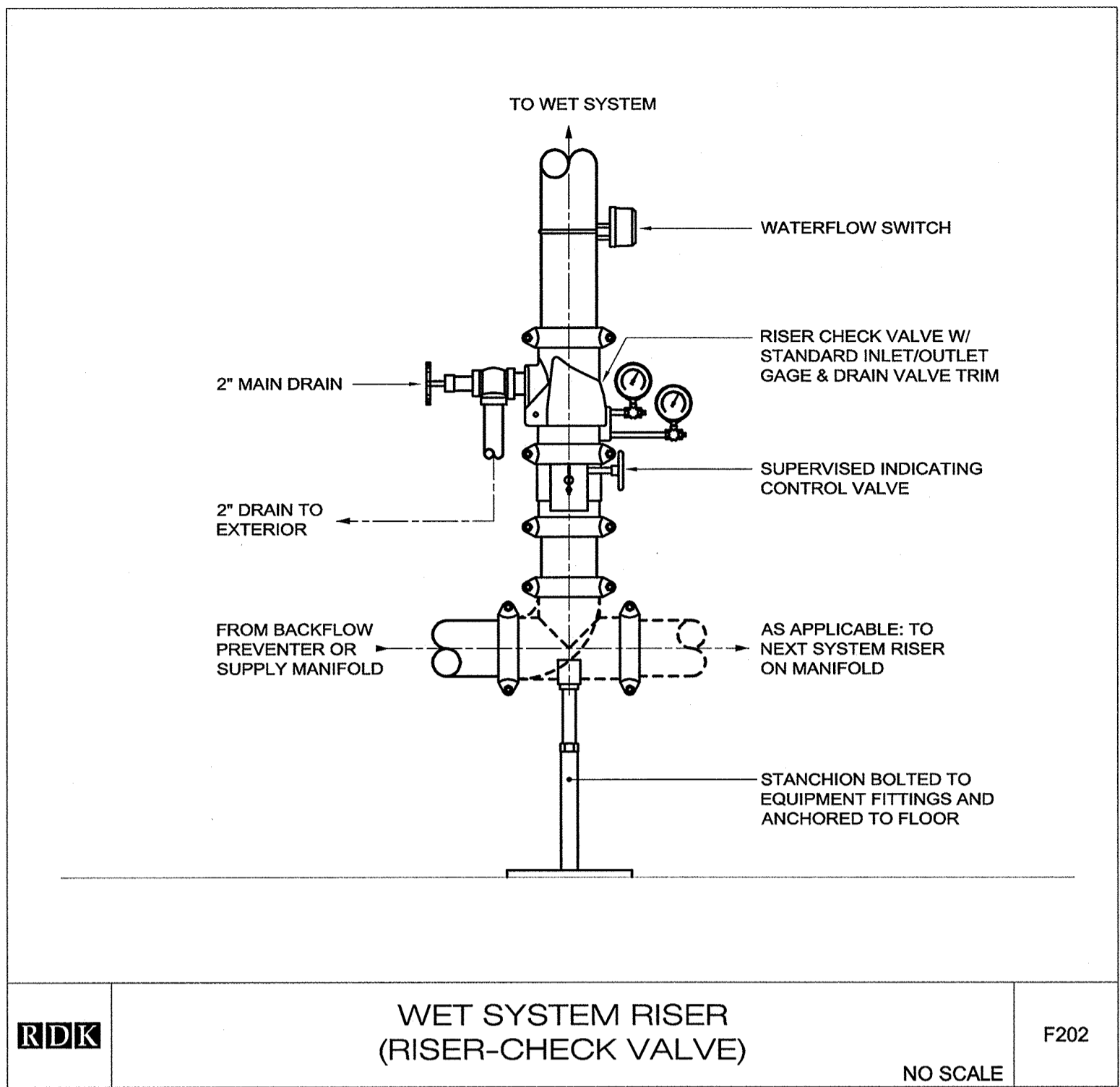
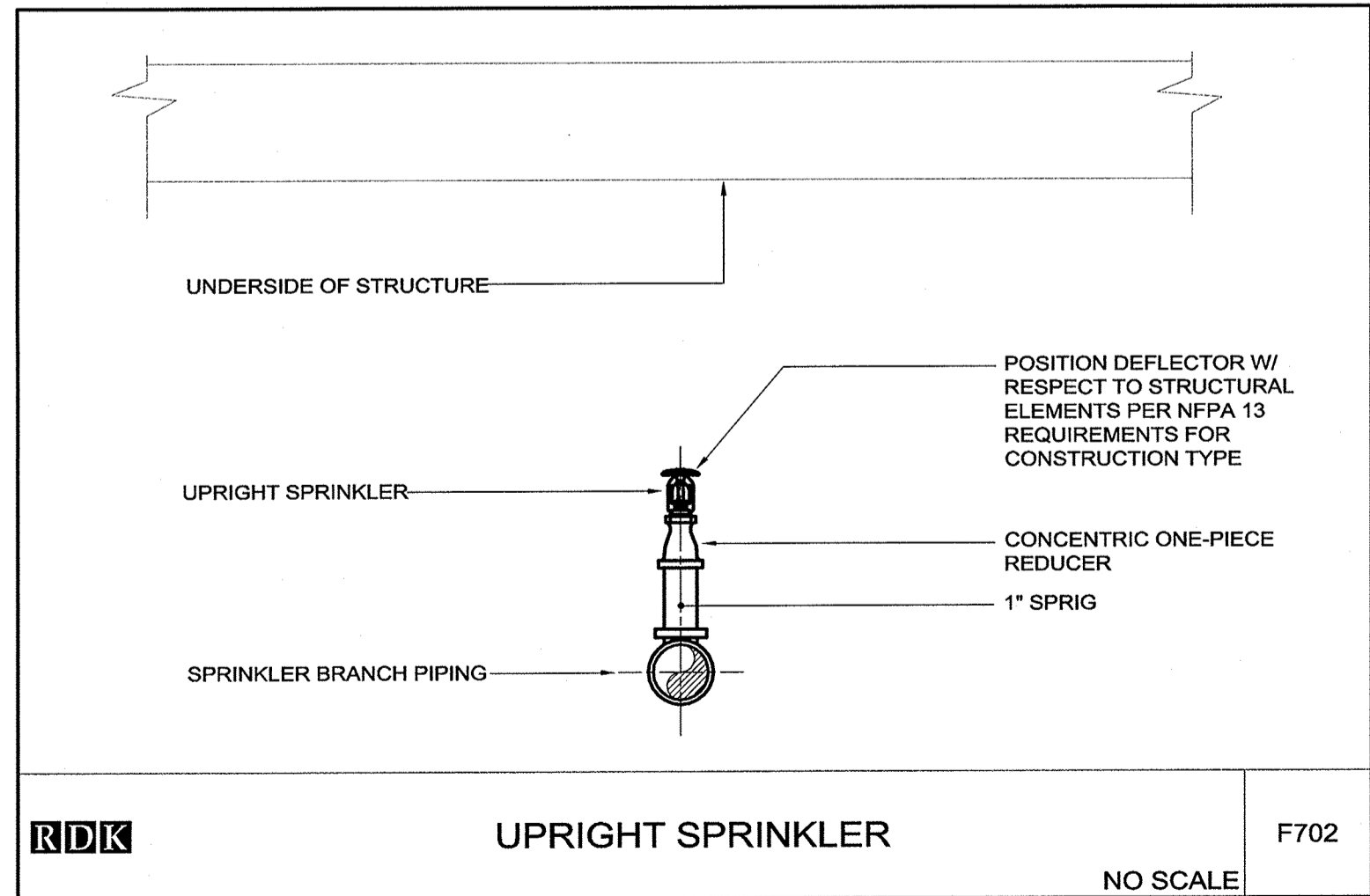
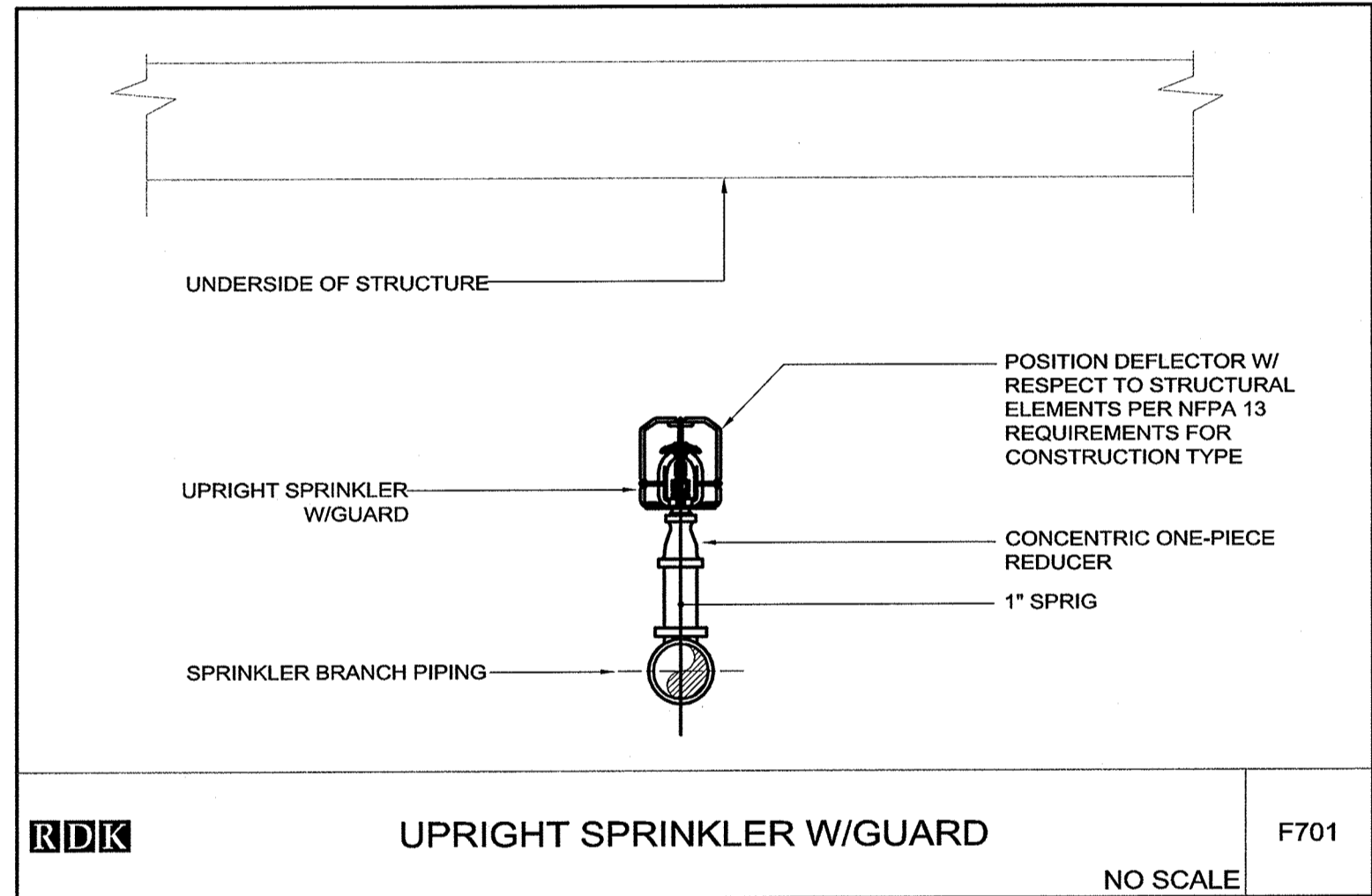
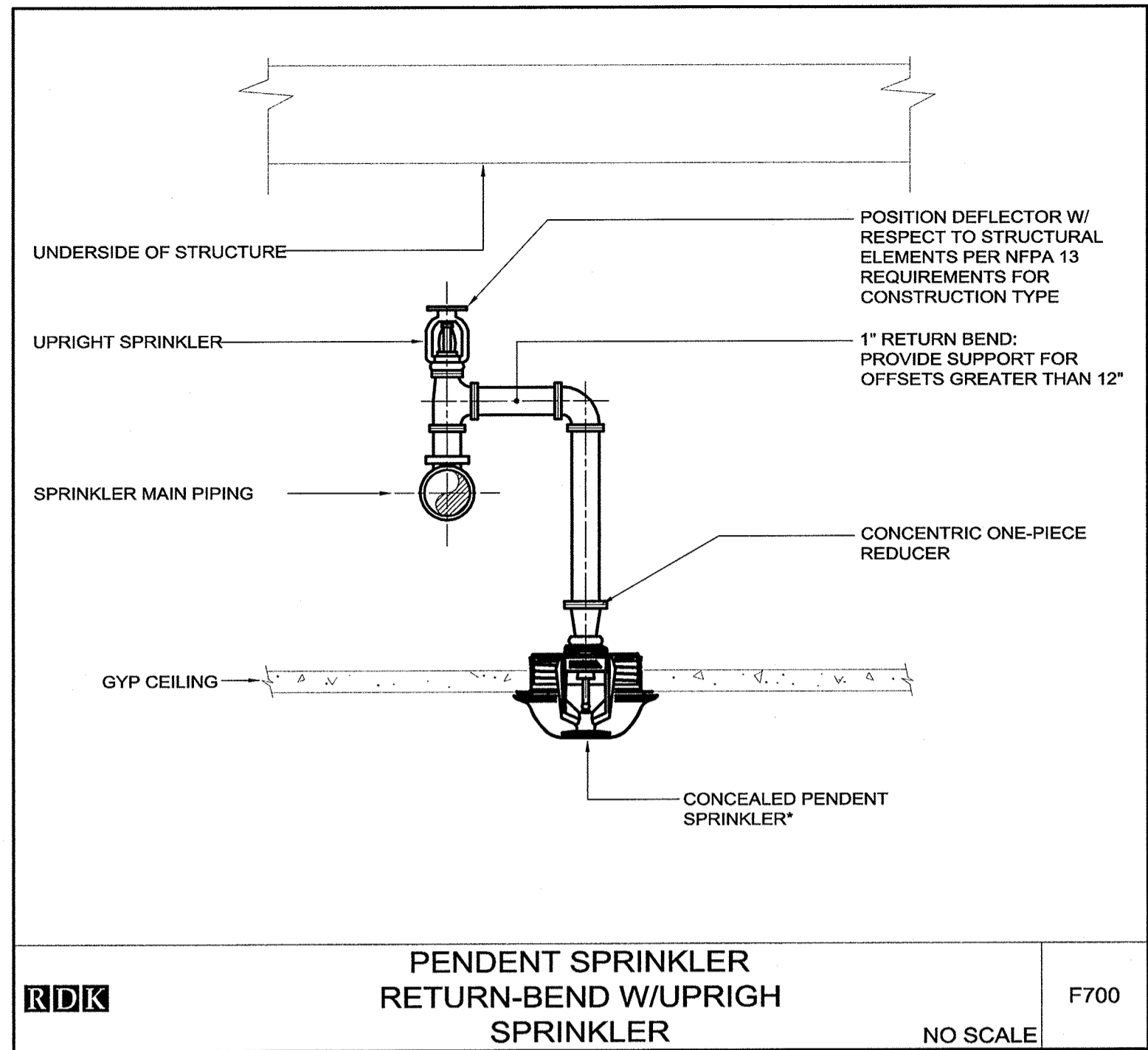
SPRINKLER SCHEDULE							
SYMBOL	CONDITION	RESPONSE	ORIENTATION	COVERAGE	K-FACTOR	FINISH	TEMP RATING
○	EXISTING		PENDENT				
●	NEW	QUICK	CONCEALED PENDENT	STANDERD	5.6	WHITE	ORDINARY
⊙	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS/CHROME	ORDINARY
●	NEW	QUICK	PENDENT	STANDARD	5.6	WHITE/CHROME	ORDINARY
⊙	NEW	QUICK	UPRIGHT	STANDARD	5.6	WHITE/CHROME	INTERMEDIATE
▼	NEW	QUICK	HORIZONTAL SIDEWALL	STANDARD	5.6	WHITE/CHROME	ORDINARY
▽	NEW	QUICK	EXTENDED COVERAGE SIDEWALL	EXTENDED	8.0	WHITE/CHROME	ORDINARY



1/8" = 1'-0"

0 8' 16'

0:\2012\20120013 - Burr-Zervas-Mann Schools Fire Protection\1200 Drawings\1201 Fire Protection\Plot Fire\20120013 FP4.00 FIRE PROTECTION DETAILS.dwg [New] Mon 08, 2012 - 3:04pm ddonohue



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## REVISIONS

▲	DATE	CHK	DESCRIPTION

## SEAL



## PROJECT

NUMBER 20120013

DATE 01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

## DRAWING

DRAWN BY DD

CHECKED BY RM

SCALE 1/8" = 1'-0"

FIRE PROTECTION  
LEGEND, NOTES,  
AND ABBREVIATIONS

**BID SET**  
03/09/12



1/8" = 1'-0"  
0 8' 16'

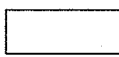

**FP4.00**































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FIRE ALARM NOTES:

1. REFER TO THIS DRAWING FOR LEGEND, SYMBOLS AND GENERAL NOTES.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ASSOCIATED NOTES, MOUNTING DETAILS, HEIGHTS AND EXACT LOCATIONS OF ALL DEVICES.
3. FIRE ALARM BRANCH CIRCUITRY SHALL BE INSTALLED IN CONDUIT. FIRE ALARM BRANCH CIRCUITRY MAY BE INSTALLED IN TYPE FMC IN LENGTHS NOT TO EXCEED 3'-0" WHERE CONNECTED TO REMOTE DEVICES.
4. JUNCTION BOX COVERS AND CONDUIT COUPLINGS FOR ALL FIRE ALARM WIRING RACEWAYS SHALL BE PAINTED RED PRIOR TO INSTALLATION.
5. MAINTAIN CONTINUITY OF BRANCH CIRCUITRY ASSOCIATED WITH ALL EXISTING FIRE ALARM DEVICES TO REMAIN.

ABBREVIATIONS			
A/AMP	AMPERE	KWH	KILOWATT HOURS
AC	ALTERNATION CURRENT	LTG	LIGHTING
ADA	AMERICAN WITH DISABILITIES ACT	MCB	MAIN CIRCUIT BREAKER
AF	AMPERE FRAME	MEC	MASSACHUSETTS ELECTRICAL CODE
AFF	ABOVE FINISHED FLOOR	MG	MOTOR/GENERATOR SET
AFG	ABOVE FINISHED GRADE	MH	MANHOLE
AIC	AMPERE INTERRUPTING CAPACITY	MLO	MAIN LUGS ONLY
AL	ALUMINUM	MTD	MOUNTED
AT	AMPERE TRIP	MTG	MOUNTING
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED CONTACT
AWG	AMERICAN WIRE GAUGE	NEC	NATIONAL ELECTRICAL CODE
B	BURIED	NO	NORMALLY OPEN CONTACT
C	CONDUIT	NTS	NOT TO SCALE
CA	CABLE	#	NUMBER
CATV	CABLE TELEVISION	OPD	OVER CURRENT PROTECTION DEVICE
CCTV	CLOSED CIRCUIT TELEVISION SYSTEM	POS	PROVIDED UNDER OTHER SECTIONS
CB	CIRCUIT BREAKER	PVC	POLYVINYL CHLORIDE
CKT	CIRCUITS	PWR	POWER
CPU	CENTRAL PROCESSING UNIT	RGS	RIGID GALVANIZED STEEL
£	CENTERLINE	RMS	ROOT MEAN SQUARE VALUE
dB	DECIBEL	RPM	REVOLUTIONS PER MINUTE
DC	DIRECT CURRENT	SN	SOLID NEUTRAL
DWG	DRAWING	SWBD	SWITCHBOARD
EC	ELECTRICAL CONTRACTOR	TB	TERMINAL BLOCK
EMT	ELECTRIC METALLIC TUBING	TEL	TELEPHONE
FDR	FEEDER	TERM N	TERMINAL
FLMT	FLEXIBLE LIQUID TIGHT METALLIC TUBING	TSP	TWISTED SHIELDED-PAIR
FREQ	FREQUENCY	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
GEC	GROUNDING ELECTRODE CONDUCTOR	TYP	TYPICAL
GFI	GROUND FAULT INTERRUPTING	UG	UNDERGROUND
GND	GROUND	UNO	UNLESS NOTED OTHERWISE
HH	HANDHOLE	UPS	UNINTERRUPTIBLE POWER SUPPLY
HP	HORSEPOWER	UTP	UNSHIELDED TWISTED-PAIR
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	V	VOLTS
HZ	HERTZ	VA	VOLT-AMPERE
IG	ISOLATED GROUND	VSD	VARIABLE SPEED DRIVE
JB	JUNCTION BOX	W	WATTS
KVA	KILOVOLT-AMPERE	WP	WEATHERPROOF
KW	KILOWATT		

EXISTING EQUIPMENT LEGEND	
XM	EXISTING EQUIPMENT TO REMAIN
X	EXISTING EQUIPMENT TO BE REMOVED
XR	EXISTING EQUIPMENT TO BE RELOCATED
XN	NEW LOCATION OF EXISTING RELOCATED EQUIPMENT
NR	EXISTING EQUIPMENT TO BE REMOVED AND NEW EQUIPMENT TO BE INSTALLED ON EXISTING BRANCH/FEEDER
	EXISTING EQUIPMENT FOR INFORMATION ONLY- INDICATED BY SYMBOL WITH LIGHT AND OUT OF FUNCTION LINE TYPE
	EXISTING EQUIPMENT TO BE REWORKED- INDICATED BY SYMBOL WITH DASHED AND IN FUNCTION LINE TYPE

FIRE ALARM LEGEND	
	FAN CONTROL PANEL
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	FIRE ALARM TERMINAL CABINET
	ELEVATOR STATUS/RECALL CABINET
	FIRE ALARM SYSTEM BATTERY PACK & BATTERY CHARGER
	FIRE ALARM MASTER BOX
	FIRE ALARM COMMUNICATIONS ANTENNA/TRANSMITTER
	FIRE ALARM RED ROTATING BEACON, EXTERIOR MOUNTED, WEATHERPROOF
	FIRE ALARM VISUAL DEVICE
	FIRE ALARM BELL
	FIRE ALARM SPEAKER
	FIRE ALARM HORN
	DUCT MOUNTED SMOKE DETECTOR
	MAGNETIC DOOR HOLDER
	END OF LINE RESISTOR
	KEY BOX
	FIRE ALARM MANUAL PULL STATION "SC" INDICATES STOPPER COVER
	SPRINKLER TAMPER FLOW SWITCH
	SPRINKLER WATER FLOW SWITCH
	SPRINKLER LOW PRESSURE SWITCH
	REMOTE ALARM INDICATOR
	REMOTE TEST STATION
	INDIVIDUAL ADDRESSABLE CONTROL MODULE
	ZONE MONITORING MODULE
	FIRE ALARM AUDIBLE AND VISUAL DEVICE, NUMERAL INDICATES CANDELA VALUE "WG" INDICATES WIRE GUARD "C" INDICATES CEILING MOUNTED
	FIREFIGHTERS PHONE, JACK ONLY UNLESS INDICATED OTHERWISE "H" INDICATES HAND SET
	BEAM TYPE SMOKE DETECTOR "BT" INDICATES TRANSMITTER "BR" INDICATES RECEIVER
	FIRE ALARM SMOKE DETECTOR, PHOTO ELECTRIC UNLESS NOTED OTHERWISE "ER" INDICATES ELEVATOR RECALL "SC" INDICATES SELF-CONTAINED, SINGLE STATION TYPE "I" INDICATES IONIZATION TYPE DETECTOR "M" INDICATES MULTI-SENSOR "WG" INDICATES WIRE GUARD
	FIRE ALARM HEAT DETECTOR, 135° FIXED TEMPERATURE UNLESS NOTED OTHERWISE "RR" INDICATES RATE OF RISE "R/R" INDICATES RATE OF RISE AND FIXED TEMPERATURE "200" INDICATES 200° TEMPERATURE "WG" INDICATES WIRE GUARD

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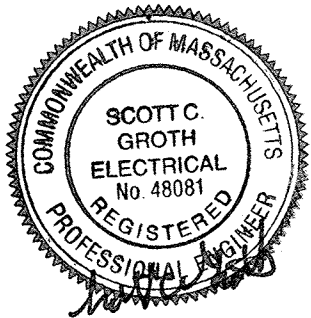
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PROJECT

NUMBER  
20120013  
DATE  
01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

DRAWING

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MW  
CHECKED BY  
SG  
SCALE  
NONE

ELECTRICAL  
FIRE ALARM  
LEGENDS, NOTES &  
ABBREVIATIONS

BID SET  
03/09/12

FA0.00

0:\2012\20120013 - Burr-Zervas-Mann Schools Fire Protection\200 Drawings\204 Electrical\Horse Mann Lower Level Fire Alarm Plan.dwg [Rev] March 13, 2012 - 10:50am mwright

NOTE:

1. REFER TO DRAWING FA0.00 FOR  
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BURR, ZERVAS AND  
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ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

**DRAWING**

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SCALE  
1/8" = 1'-0"

ELECTRICAL  
HORACE MANN  
LOWER LEVEL  
FIRE ALARM PLAN

**BID SET**  
03/09/12

**FA4.00**



1/8" = 1'-0"  
0 8' 16'

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NOTE:

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SYSTEM REPLACEMENT  
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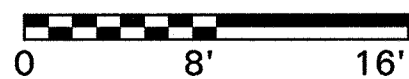
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ELECTRICAL  
HORACE MANN  
ENTRY LEVEL  
FIRE ALARM PLAN



1/8" = 1' - 0"



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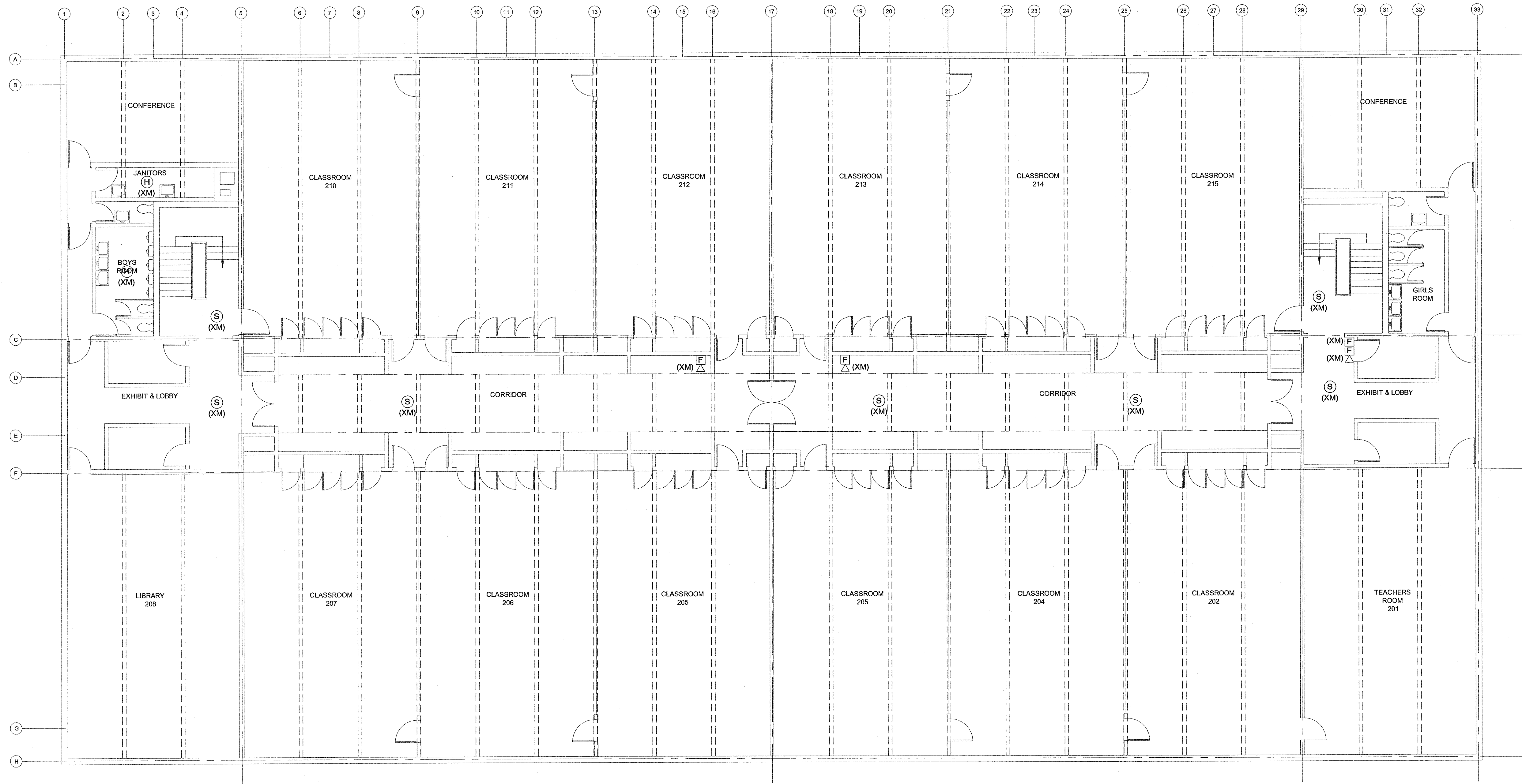
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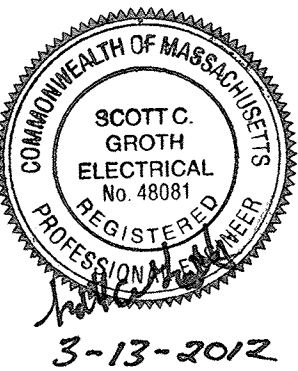


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BURR, ZERVAS AND  
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ELEMENTARY SCHOOL  
FIRE PROTECTION  
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NEWTON, MA 02461

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ELECTRICAL  
HORACE MANN  
UPPER LEVEL  
FIRE ALARM PLAN

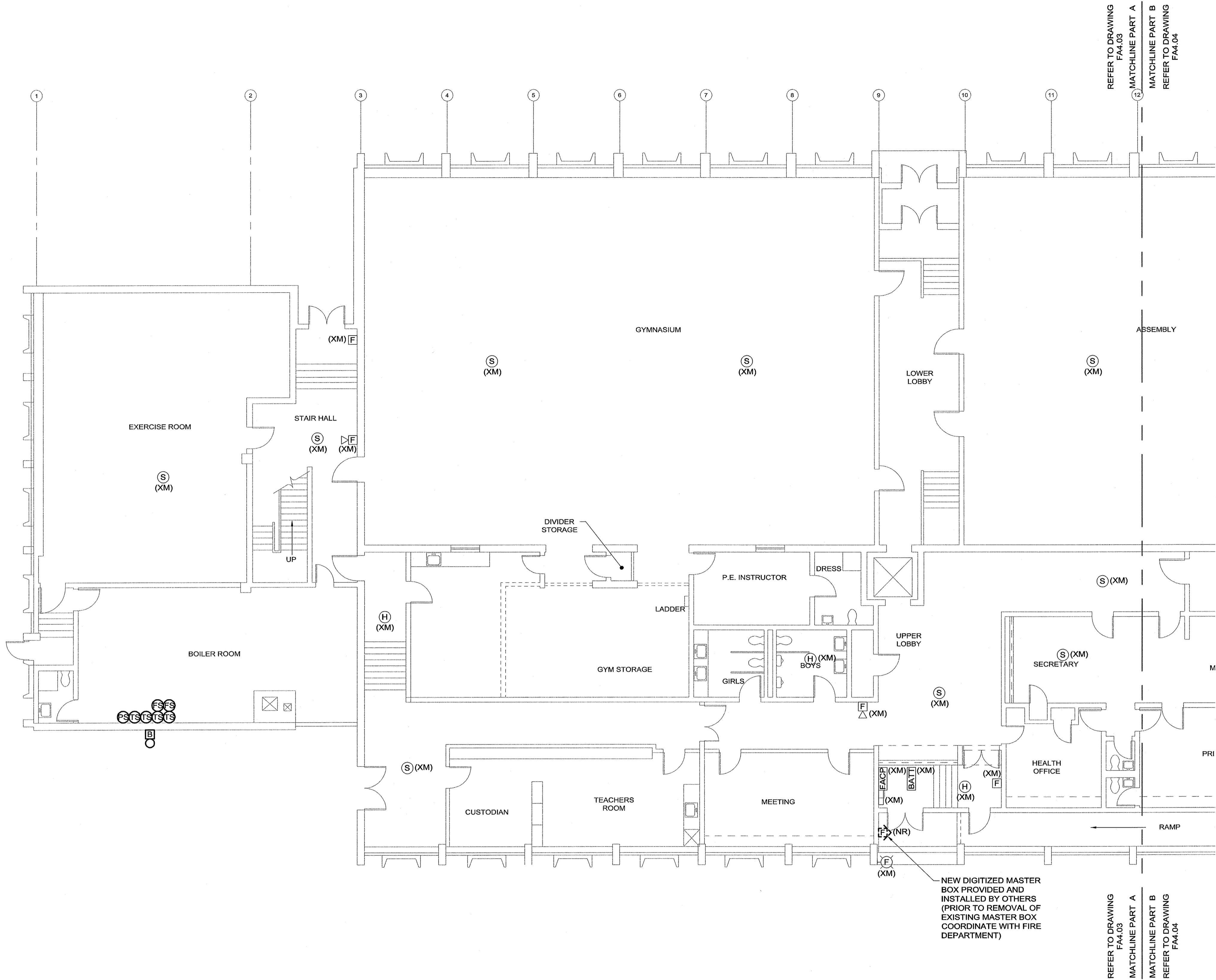
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FA4.02

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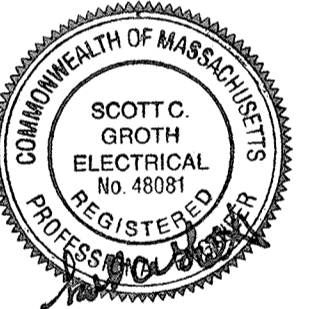
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BURR, ZERVAS AND  
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ELEMENTARY SCHOOL  
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SYSTEM REPLACEMENT  
NEWTON, MA 02461

### DRAWING

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MW

CHECKED BY  
SG

SCALE  
1/8" = 1'-0"

ELECTRICAL  
BURR SCHOOL  
FIRST FLOOR  
FIRE ALARM  
PLAN A

BID SET  
03/09/12



1/8" = 1' - 0"  
0 8' 16'

FA4.03

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 FIRE PROTECTION  
 SYSTEM REPLACEMENT  
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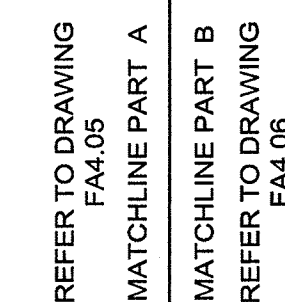
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MURR SCHOOL  
FIRST FLOOR  
FIRE ALARM  
PLAN B

# BID SET



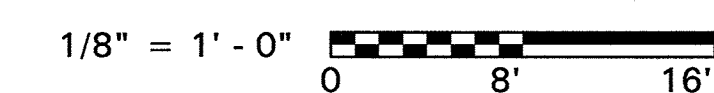
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1. REFER TO DRAWING FA0.00 FOR  
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LEGENDS AND ABBREVIATIONS

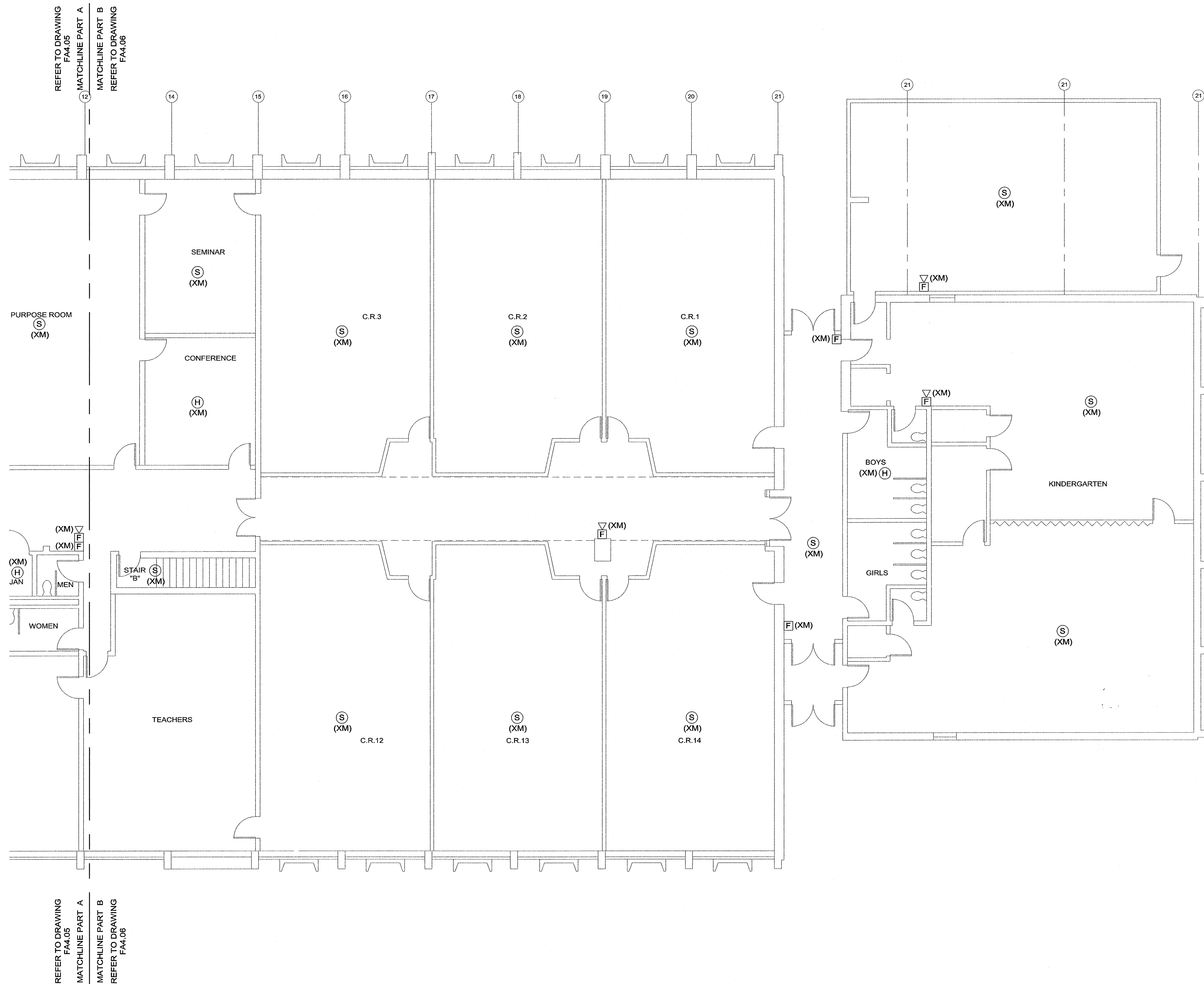


ELECTRICAL  
BURR SCHOOL  
SECOND FLOOR  
FIRE ALARM  
PLAN A

# A4.05



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NOTE:  
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LEGENDS AND ABBREVIATIONS



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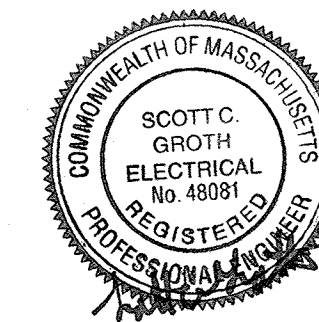
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HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

## DRAWING

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SCALE  
1/8" = 1'-0"

ELECTRICAL  
BURR SCHOOL  
SECOND FLOOR  
FIRE ALARM  
PLAN B

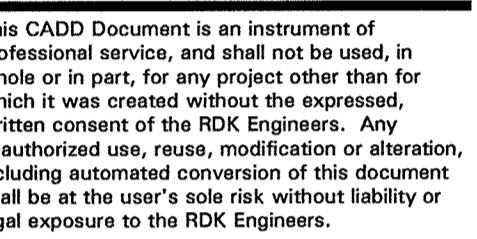
**BID SET**  
03/09/12



1/8" = 1' - 0"  
0 8' 16'

**FA4.06**

1. REFER TO DRAWING FA0.00 FOR  
GENERAL FIRE ALARM NOTES,  
LEGENDS AND ABBREVIATIONS

[illegible]

3-13-2012

NUMBER \_\_\_\_\_  
20120013

DATE—01-27-2012

MURR, ZERVAS AND  
 HORACE MANN  
 ELEMENTARY SCHOOL  
 FIRE PROTECTION  
 SYSTEM REPLACEMENT  
 NEWTON, MA 02461

RAWN BY \_\_\_\_\_  
MW

CHECKED BY \_\_\_\_\_  
SG

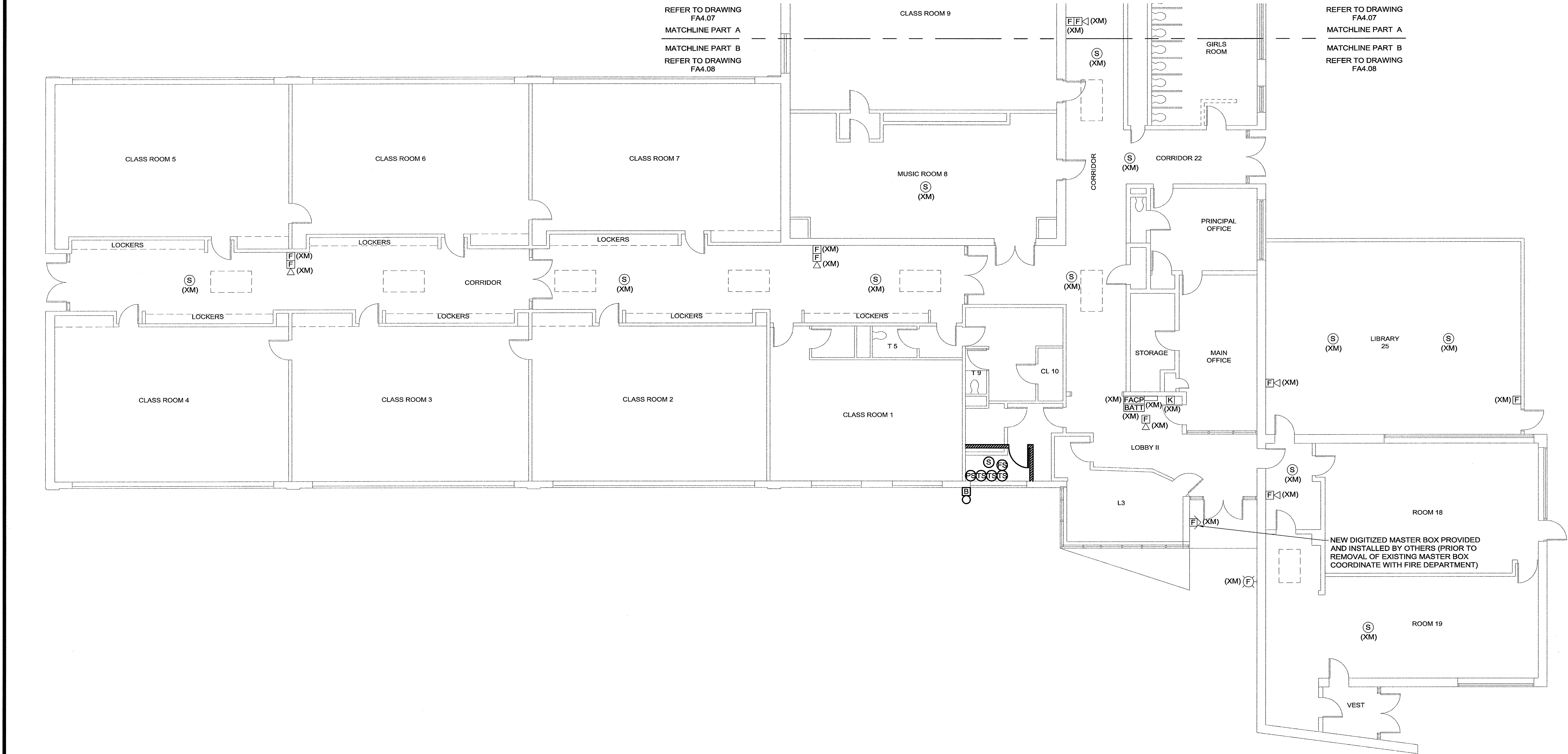
SCALE \_\_\_\_\_  
1/8" = 1'-0"

ELECTRICAL  
SERVISE SCHOOL  
FIRST FLOOR  
FIRE ALARM  
PLAN A

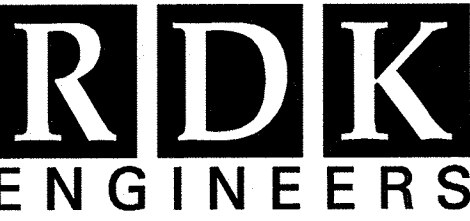
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# FA4.07

O:\2012\20120013 - Burr-Zervas-Mann Schools Fire Protection\1200 Drawings\1204 Electrical\Zervas School First Floor Fire Alarm Plan.dwg [Work] North 13, 2012 - 10:52am mwright



NOTE:  
1. REFER TO DRAWING FA0.00 FOR  
GENERAL FIRE ALARM NOTES,  
LEGENDS AND ABBREVIATIONS



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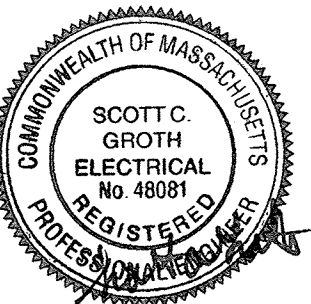
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### SEAL



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01-27-2012

BURR, ZERVAS AND  
HORACE MANN  
ELEMENTARY SCHOOL  
FIRE PROTECTION  
SYSTEM REPLACEMENT  
NEWTON, MA 02461

### DRAWING

DRAWN BY  
MW

CHECKED BY  
SG

SCALE  
1/8" = 1'-0"

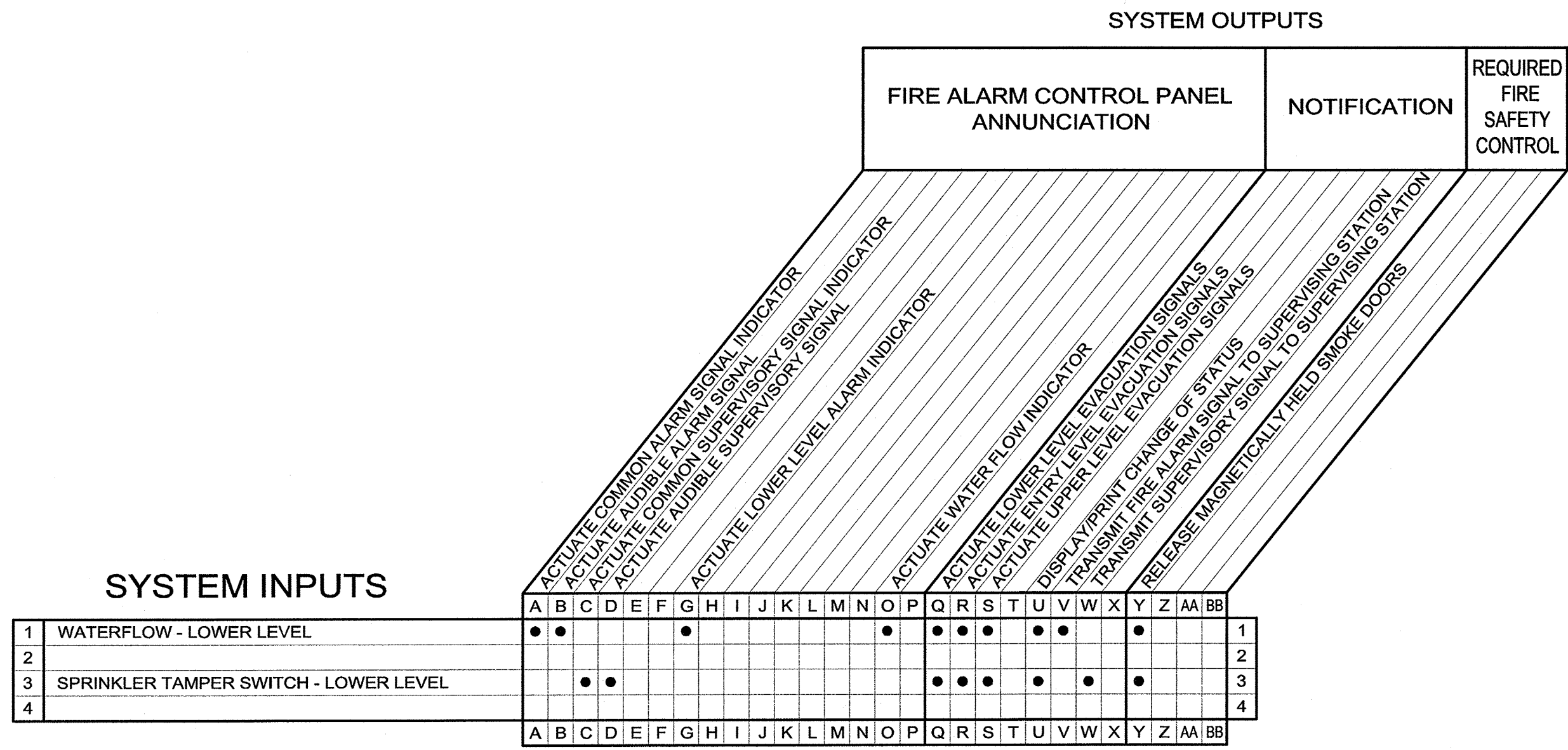
ELECTRICAL  
ZERVAS SCHOOL  
FIRST FLOOR  
FIRE ALARM  
PLAN B

**BID SET**  
03/09/12



1/8" = 1' - 0"  
0 8' 16'

O:\2012\20120013 - Burr-Zervas-More Schools Fire Protection\1200 Drawings\1204 Electrical\HORACE MANN SCHOOL FIRE ALARM RISER.dwg [New] Month: 11, 2012 - 10:52am mwright

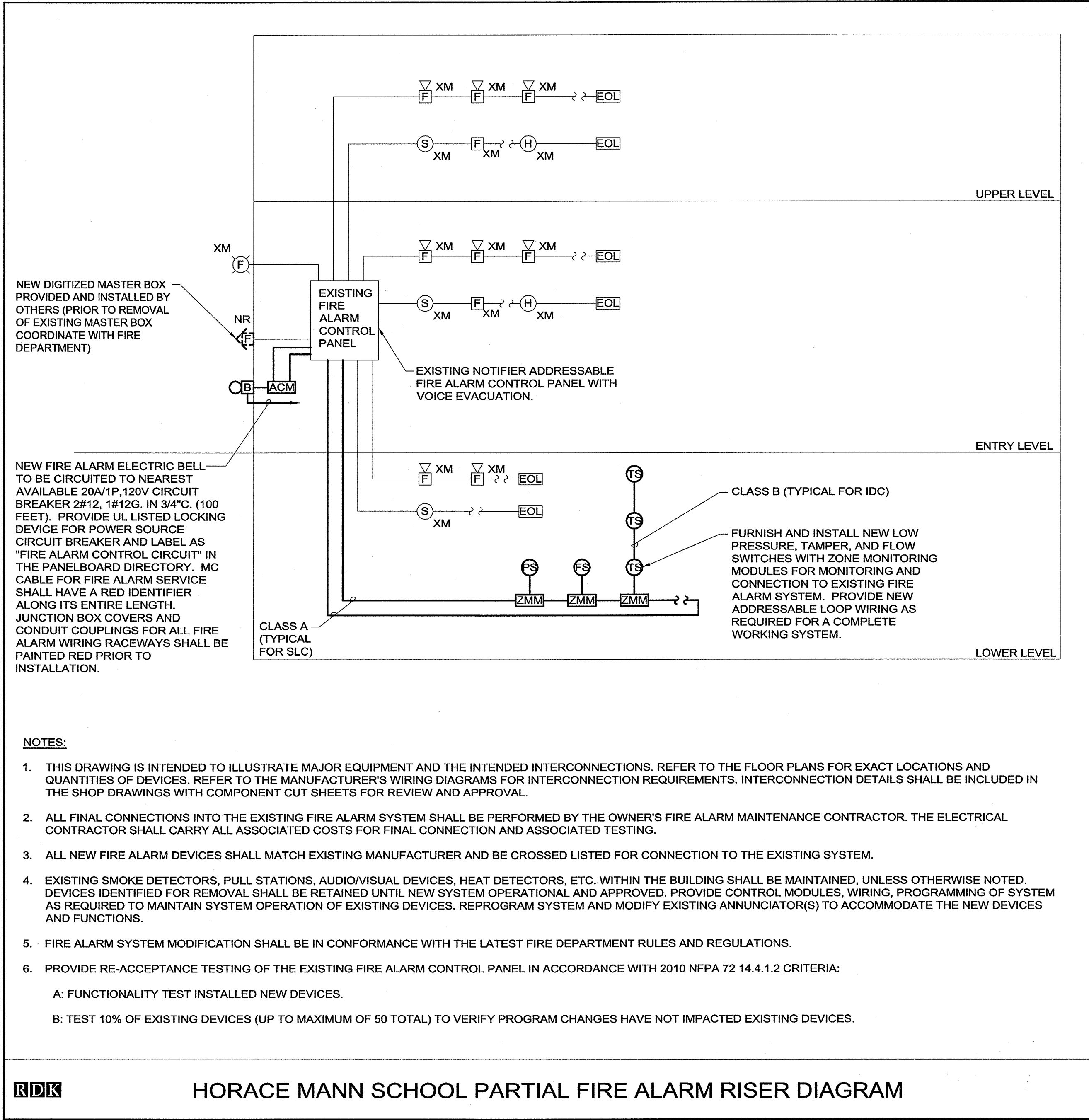


### FIRE ALARM SEQUENCE OF OPERATION MATRIX

N.T.S.

#### NOTES:

- DEVELOP SPECIFIC MATRIX FOR EACH DEVICE AND CROSS REFERENCE TO DEVICE ADDRESS NUMBER FOR ENGINEER'S APPROVAL.
- SHOP DRAWINGS SHALL INCLUDE FLOOR PLANS WITH DEVICE LAYOUT. EACH DEVICE SHALL HAVE ITS ASSOCIATED ADDRESS ILLUSTRATED AND CROSS REFERENCED TO THE SEQUENCE OF OPERATIONS MATRIX. SHOP DRAWING SHALL ILLUSTRATE ALL REQUIRED INTERCONNECTING WIRING.
- VISUAL APPLIANCES SHALL STOP FLASHING WHEN SILENCE FUNCTION SELECTED AT FIRE ALARM CONTROL PANEL IN ACCORDANCE WITH NFPA 72.

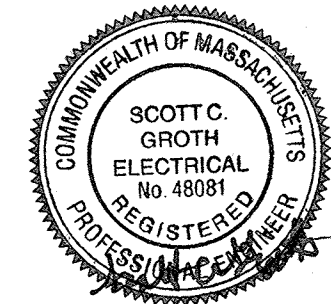


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FIRE PROTECTION  
SYSTEM REPLACEMENT  
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### DRAWING

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MW

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SG

SCALE  
NONE

ELECTRICAL  
HORACE MANN SCHOOL  
FIRE ALARM  
RISER DIAGRAM

BID SET  
03/09/12



1/8" = 1' - 0"  
0 8' 16'

FA5.00

## REVISIONS

[illegible]

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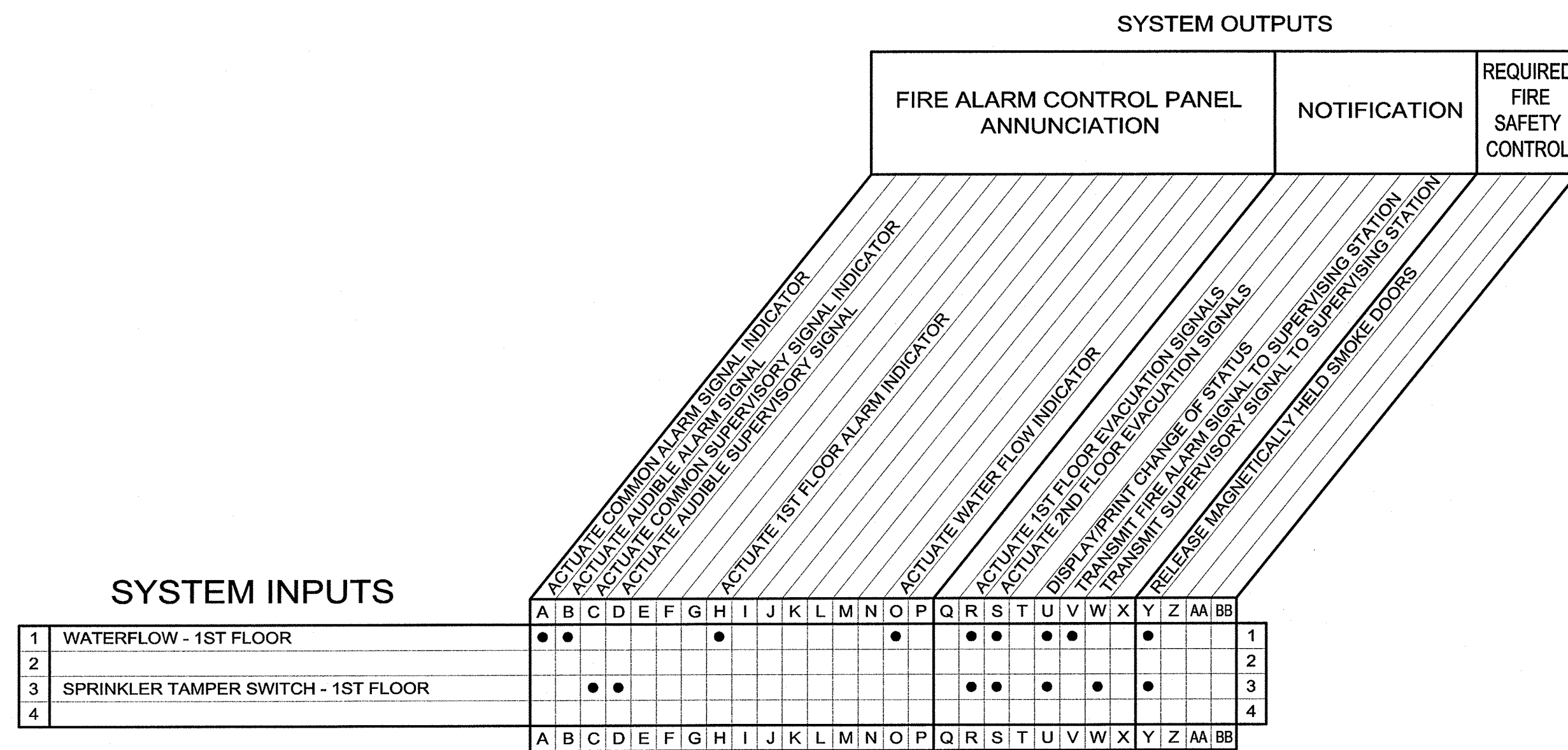
## DRAWING

DRAWN BY \_\_\_\_\_  
MW

CHECKED BY \_\_\_\_\_  
SG

SCALE \_\_\_\_\_  
NONE

# ELECTRICAL CURR SCHOOL FIRE ALARM WIRER DIAGRAM

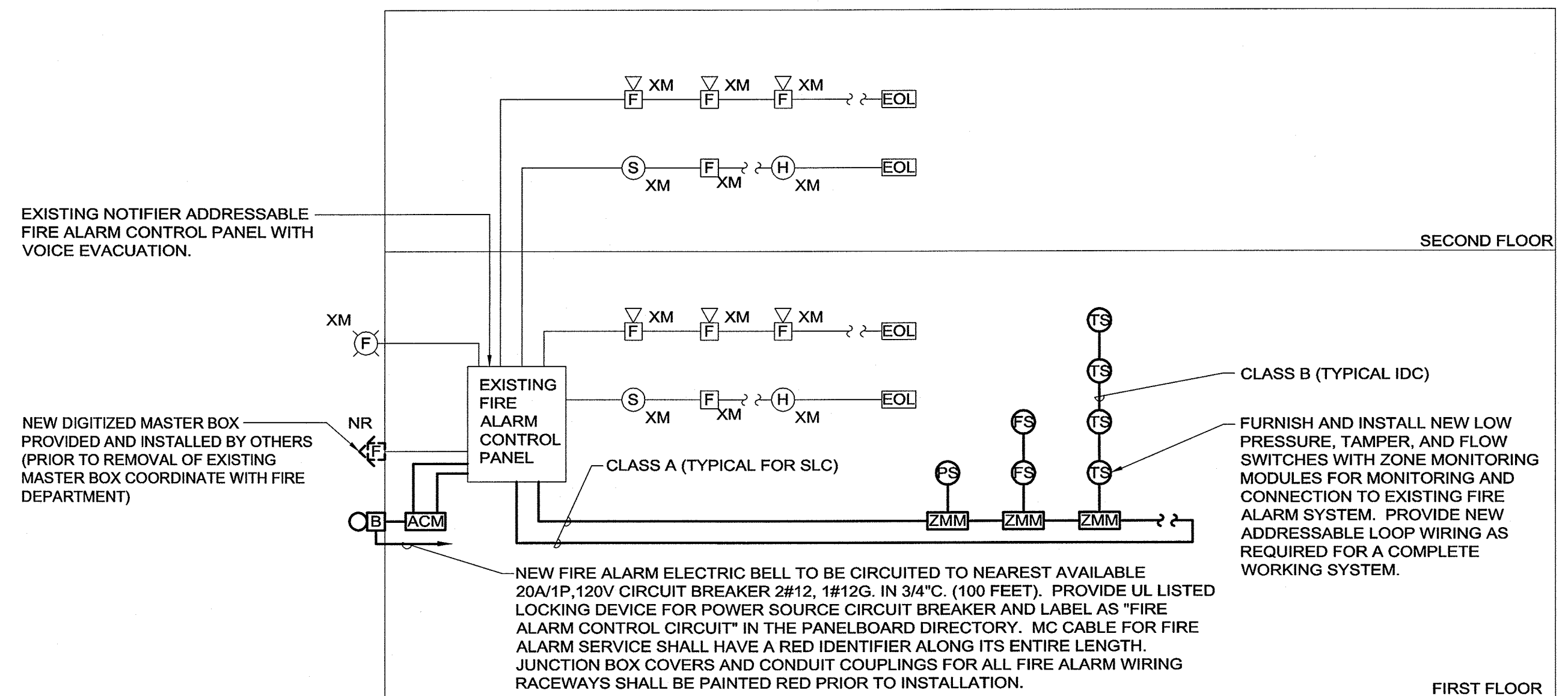


### FIRE ALARM SEQUENCE OF OPERATION MATRIX

N.T.S.

NOTES:

1. DEVELOP SPECIFIC MATRIX FOR EACH DEVICE AND CROSS REFERENCE TO DEVICE ADDRESS NUMBER FOR ENGINEER'S APPROVAL.
2. SHOP DRAWINGS SHALL INCLUDE FLOOR PLANS WITH DEVICE LAYOUT. EACH DEVICE SHALL HAVE ITS ASSOCIATED ADDRESS ILLUSTRATED AND CROSS REFERENCED TO THE SEQUENCE OF OPERATIONS MATRIX. SHOP DRAWING SHALL ILLUSTRATE ALL REQUIRED INTERCONNECTING WIRING.
3. VISUAL APPLIANCES SHALL STOP FLASHING WHEN SILENCE FUNCTION SELECTED AT FIRE ALARM CONTROL PANEL IN ACCORDANCE WITH NFPA 72.



NOTES:

1. THIS DRAWING IS INTENDED TO ILLUSTRATE MAJOR EQUIPMENT AND THE INTENDED INTERCONNECTIONS. REFER TO THE FLOOR PLANS FOR EXACT LOCATIONS AND QUANTITIES OF DEVICES. REFER TO THE MANUFACTURER'S WIRING DIAGRAMS FOR INTERCONNECTION REQUIREMENTS. INTERCONNECTION DETAILS SHALL BE INCLUDED IN THE SHOP DRAWINGS WITH COMPONENT CUT SHEETS FOR REVIEW AND APPROVAL.
2. ALL FINAL CONNECTIONS INTO THE EXISTING FIRE ALARM SYSTEM SHALL BE PERFORMED BY THE OWNER'S FIRE ALARM MAINTENANCE CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL CARRY ALL ASSOCIATED COSTS FOR FINAL CONNECTION AND ASSOCIATED TESTING.
3. ALL NEW FIRE ALARM DEVICES SHALL MATCH EXISTING MANUFACTURER AND BE CROSSED LISTED FOR CONNECTION TO THE EXISTING SYSTEM.
4. EXISTING SMOKE DETECTORS, PULL STATIONS, AUDIO/VISUAL DEVICES, HEAT DETECTORS, ETC. WITHIN THE BUILDING SHALL BE MAINTAINED, UNLESS OTHERWISE NOTED. DEVICES IDENTIFIED FOR REMOVAL SHALL BE RETAINED UNTIL NEW SYSTEM OPERATIONAL AND APPROVED. PROVIDE CONTROL MODULES, WIRING, PROGRAMMING OF SYSTEM AS REQUIRED TO MAINTAIN SYSTEM OPERATION OF EXISTING DEVICES. REPROGRAM SYSTEM AND MODIFY EXISTING ANNUNCIATOR(S) TO ACCOMMODATE THE NEW DEVICES AND FUNCTIONS.
5. FIRE ALARM SYSTEM MODIFICATION SHALL BE IN CONFORMANCE WITH THE LATEST FIRE DEPARTMENT RULES AND REGULATIONS.
6. PROVIDE RE-ACCEPTANCE TESTING OF THE EXISTING FIRE ALARM CONTROL PANEL IN ACCORDANCE WITH 2010 NFPA 72 14.4.1.2 CRITERIA:

A: FUNCTIONALITY TEST INSTALLED NEW DEVICES.


**B: TEST 10% OF EXISTING DEVICES (UP TO MAXIMUM OF 50 TOTAL) TO VERIFY PROGRAM CHANGES HAVE NOT IMPACTED EXISTING DEVICES.**



## BURR SCHOOL PARTIAL FIRE ALARM RISER DIAGRAM



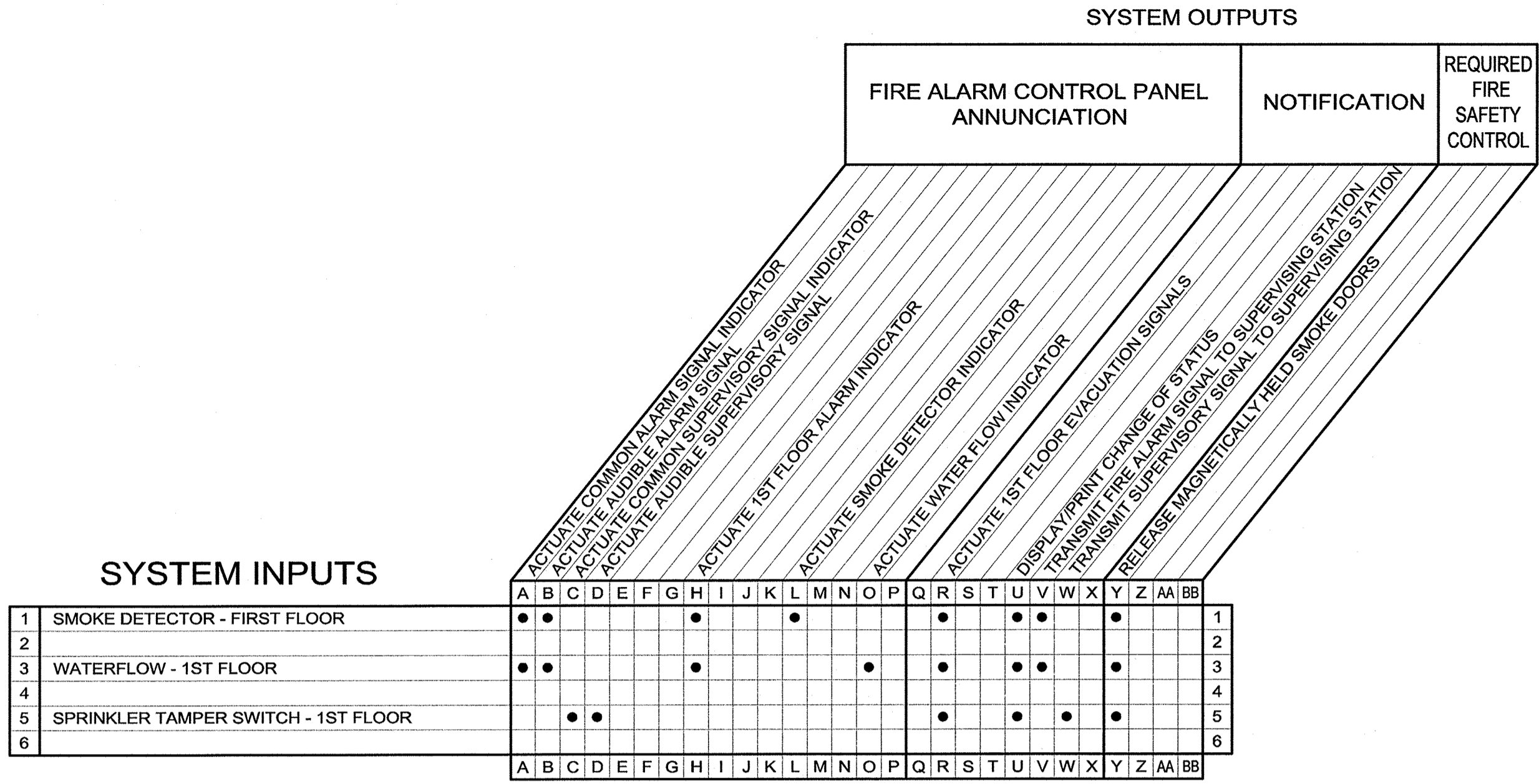
1/8" = 1' - 0"



A horizontal graphic scale bar with a black and white checkered pattern. Below the bar, the numbers 0, 8', and 16' are marked at the beginning, middle, and end respectively.

# FA5.01

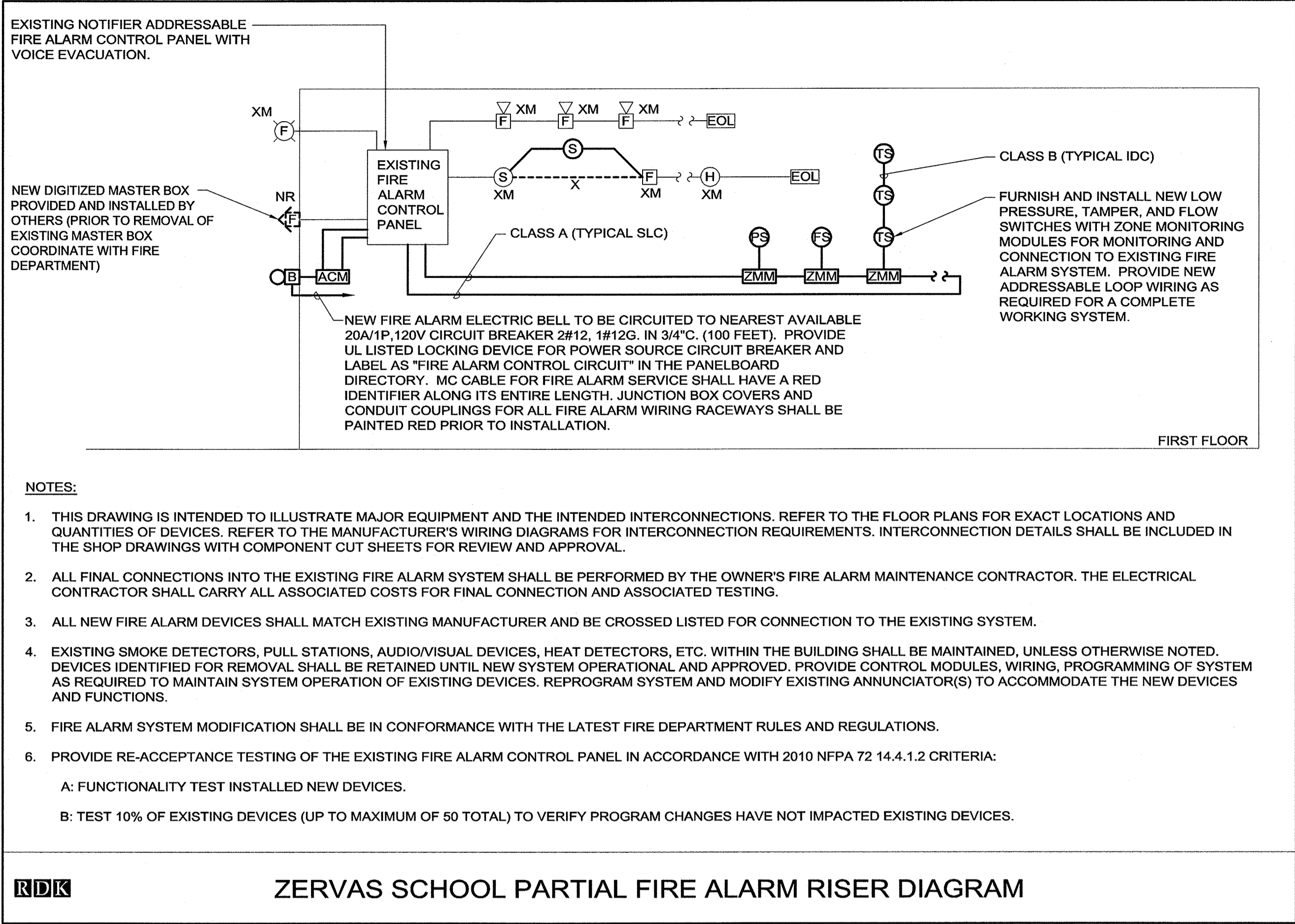
G:\2012\20120013 - Burr-Zervas-Mann Schools Fire Protection\200 Drawings\204 Electrical\Zervas School Fire Alarm Riser Diagram.dwg [New] March 13, 2012 - 10:59am mwright



FIRE ALARM SEQUENCE OF OPERATION MATRIX

N.T.S.

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  - VISUAL APPLIANCES SHALL STOP FLASHING WHEN SILENCE FUNCTION SELECTED AT FIRE ALARM CONTROL PANEL IN ACCORDANCE WITH NFPA 72.



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DRAWING

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